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MOTOR AGE

A Chilton Class Journal Publication
Published Weekly November 1, 1928



IT IS THE AMOUNT OF PROFIT, NOT THE
NUMBER OF SALES THAT DETERMINES
THE SUCCESS OF ANY BUSINESS. MANY
STUTZ DEALERS HAVE MADE MORE
PROFIT THIS YEAR THAN SOME OF THEIR
COMPETITORS WHO SOLD MANY MORE
CARS. UNIT PROFIT! THERE IS REAL
PROFIT IN STUTZ—FOR THE RIGHT MEN.

THE
LOW-WEIGHTED
STUTZ

STUTZ MOTOR CAR COMPANY OF AMERICA, INC., INDIANAPOLIS IND.



POCKETBOOK APPEAL

For The Consumer

Durant appeal is the shortest distance between the motor-car buyer's pocket-book and the dealer—a straight line.

Beauty, style, speed, acceleration beyond belief, quiet bodies, quiet, powerful, vibrationless motors and the greatest economy in operation belong to Durant.

All these qualities, and many others, are available to the Durant buyer in a wide range of models in four and six cylinder cars priced to fit his pocket-book,—\$595 to \$1550. And in the same class are Durant trucks, fast, light and powerful in four and six cylinder types, priced under \$1000. Both cars and trucks have a tremendous appeal in their economy of operation and maintenance.

For The Dealer

The straight line pocketbook appeal between a manufacturer and a dealer is found in the Durant Triple Franchise.

Durant products so completely cover the price range of cars and trucks that make up more than 80% of the car and truck sales that the Durant Triple Franchise allows a dealer to dominate his territory.

Durant Dealers are happy, money-making merchants, backed up by a powerful advertising campaign, assisted by sales promotion and dealer aids, enjoying factory cooperation and unencumbered by a non-interfering, non-dictating Durant policy. Make it your business today to write for the full facts concerning this honest, progressive, generous triple franchise.

DURANT

Durant Motors, Inc., 250 West 57th Street, New York

CADILLAC *and* LA SALLE *- - - adopt - - -*

Duplate

WHEREVER an improvement of tried merit is possible, Cadillac and LaSalle are always leaders.

These new cars embody the newest and best developments in everything that makes motoring a pleasure, and a big element in the comfort of motoring is SAFETY.

Both Cadillac and LaSalle are equipped throughout with DUPLATE, which eliminates all danger of cuts from flying glass or, in other words, reduces the chance of injury to passengers by 50%.

DUPLATE is real plate glass made shatterproof. It has all the clarity and true vision properties of regular plate glass.

Full information about DUPLATE, for all makes of cars, can be obtained at all warehouses of the Pittsburgh Plate Glass Company.

PITTSBURGH SAFETY GLASS CO.
PITTSBURGH, PA.

*Distributed by warehouses of Pittsburgh Plate Glass Company
located in all principal cities in the U S.*

The
**SHATTERPROOF
PLATE GLASS**



Insurance merely
compensates . . .
Duplate prevents
injuries.

NEW LAPS Systems

REG. U. S. PAT. OFF.

with Parts Index System, Bin Loading Diagram. **MOVIT** quick-change dividers

Stock Record Card furnished for use in Parts Index Board

NAME OF PART **PART NUMBER** **LIST PRICE** **LOCATION** **MIN.** **MAX.**

CON. ROD	18131	2 10	12 A 4	4	8
PISTON			7	8	16
FAN			3	1	3
				3	7
				2	5

MOVIT, the quick change divider fastener that makes every bin in a LAPS System instantly adjustable and eliminates the use of bolts in fastening dividers.

PATENT APPLIED FOR

Parts Bin Loading Diagram for unit 1 of the 2 unit system in background. This diagram furnished with each system indicates location of bins in car assembly group where parts are to be stored.

Parts Index Board furnished with every new LAPS system. It provides a complete stock index record for every part stored in the bins.

END IRONS for LONG PARTS

A 2-UNIT LAPS SYSTEM

Instantly adjustable in bin Size and Arrangement — Adaptable to any method of Parts Storage

WHEN you purchase a new LAPS System you get the following proven advantages of parts storage and stock record keeping.

(1) Correctly designed parts bins for a balanced stock with labels for every bin.

(2) A parts index system that is adaptable to listing parts as in any car manufacturer's parts book, or in accordance with your own method of listing and locating parts, or listing and locating parts numerically, alphabetically, grouped by car assembly numerically or grouped by car assembly alphabetically.

(3) **MOVIT**, the divider fastener that makes every LAPS divider a quick change divider. This feature is

used exclusively in LAPS and provides for the quickest rearrangement of bins or bin sizes possible to keep system up to date with shifting parts stocks and new car models.

(4) A system that will fit your stock requirements. LAPS systems are built in various sizes ranging from a 1 unit system carrying a \$500 stock, to a 24 unit system carrying a \$16,000 stock.

Ask your jobber to give you full details on Lupton Auto Parts Storage Systems and make certain you get **MOVIT**, the quick-change divider fastener. Manufactured exclusively by David Lupton's Sons Company, General Motors Building, Detroit, Mich.

LUPTON AUTO PARTS STORAGE

MOTOR AGE

Reg. U. S. Pat. Off.
Established 1899

Vol. LIV

No. 18

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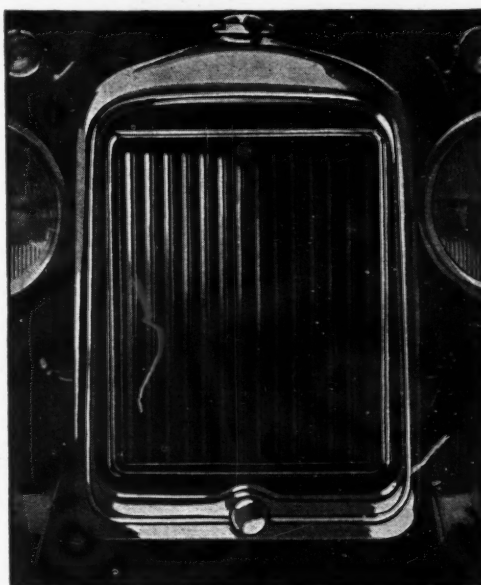
Subscriptions accepted only from the Automotive Trade
Entered as Second Class Matter, June 2, 1927, at the Post Office at Philadelphia, Pa., under Act of March 2, 1879.

Take the slump out
of winter sales—by
featuring the NEW

GLOBE

VERTICAL BLADE
Radiator Shutter

(Licensed by Pines Winterfront Co., under Patent No. 1,458,593)



YOU can do a larger volume of shutter business and make greater profits if you feature the new GLOBE Vertical Blade Radiator Shutter this winter.

When motorists drive in for motor and radiator repairs, be on the job—sell GLOBE Vertical Blade Radiator Shutters. A ready stock will mean many "plus" sales—added profits and satisfied customers.

The design of the new GLOBE Shutter is outstanding. The Vertical Blades harmonize with present radiator design, create a slenderizing effect on all cars and add a snap of smartness to the radiator. GLOBE Shutters insure better motor performance and greater winter driving comfort. Dash controlled. Quickly installed. Reasonably priced.

Investigate the discount schedule that guarantees you greater profits. Write for the facts.

FORD \$6.50 ALL OTHER \$11
WHIPPET
CHEVROLET CARS

Manufactured by
THE GLOBE MACHINE & STAMPING CO.
1225 West 76th Street CLEVELAND, OHIO



"YOU AIN'T TELLIN' ME NOTHING!"

[[A new story about a
traveling salesman!]]

THIS happened to one of our *own*. He was traveling from Philadelphia to Charlotte. And as our hundred-percenter pulled out a copy of a certain truck magazine, a rotund, congenial-looking gentleman in the opposite seat leaned toward him.

"What's your line, Brother?" he asked.

"Duals. Budd Duals," said our worthy. "These big, double wheels for buses and trucks—you've probably seen 'em. They're like—well, here's one of our ads that shows 'em."

The congenial gentleman pulled out his glasses and read. "I know," he said. "I've read your ads many a time. But listen, Brother,"—and he laughed—"You fellows ain't tellin' me nothing!"

"For six years I've been selling trucks down near Atlanta. I've sold lots of jobs on different duals—and had arguments afterwards!

"Some duals would scuff out tires almost as fast as you could buy 'em—they'd wobble and shimmy the rubber right out of 'em!"

"And some duals would need a whole gang of men to get a tire off of 'em—they just run me ragged with grief.

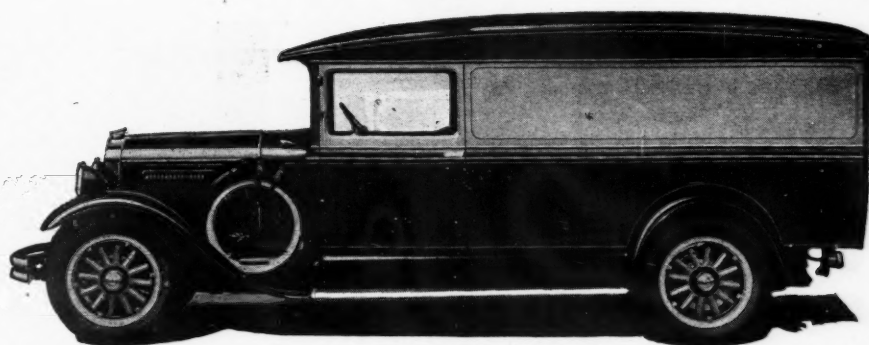
"But believe me, Brother, I'm selling them on Budd Duals *now*—and staying away from trouble! I've quit falling for new-fangled ideas. I've quit experimenting—let the other guy do it; I've paid *plenty* for doing *mine*!"

The train was slowing down. A dusky-skinned porter was shouting something that sounded like "Oo-o-or-way!"

The congenial gentleman got up. "Well, here's where I leave you," he said. "And say"—he smiled—"Why don't you fellows make an ad out of *that*?"

And we did!

BUDD
Wheel Company
Detroit



STUDEBAKER

Commercial Cars
widen your market
— — and cut your
overhead!

EVERY tradesman who delivers merchandise—every user of ambulances and funeral cars—even the city fire department—becomes a prospect for you, with the Studebaker franchise.

Studebaker gives you 4 great lines of smart, swift, sturdy cars, in 4 price classes.

Erskine Six at \$835—the finest, fastest car under \$1000. The Dictator at \$1185—the car that traveled 5,000 miles in 4,751 min-

utes. The Commander at \$1495—25,000 miles in 22,968 minutes. And to top the line, the great President Eight, at \$1685—holder of five internationally recognized world records—30,000 miles in 26,326 minutes.

A car for every buyer at the price he can afford to pay! A car that is better looking, better performing, *better built*. Is it any wonder Studebaker sales *have shown substantial increases this year*? Send for the confidential facts TODAY.

Department 51

THE STUDEBAKER CORPORATION OF AMERICA, South Bend, Ind.

.. also **3rd**
 in **SEPTEMBER**
new car registrations
 in

NEW YORK METROPOLITAN
 DISTRICT

Official figures show that Nash ranked ahead of every-one but Chevrolet and Ford. And in the *NINE* months of 1923, Nash held the same impressive ranking—1st in its class, 3rd among all cars.

WISCONSIN ENTIRE
 STATE

September also found Nash among the top-notchers in the Badger state. The 4-cylinder Ford and Chevrolet lines led, with Nash far ahead of its nearest rival.

MINNEAPOLIS HENNEPIN
 COUNTY

In this section of the Northwest, Nash was only 45 cars behind Chevrolet during September, finishing third and outdistancing all other Sixes.

MEMPHIS SOUTH SHELBY
 COUNTY

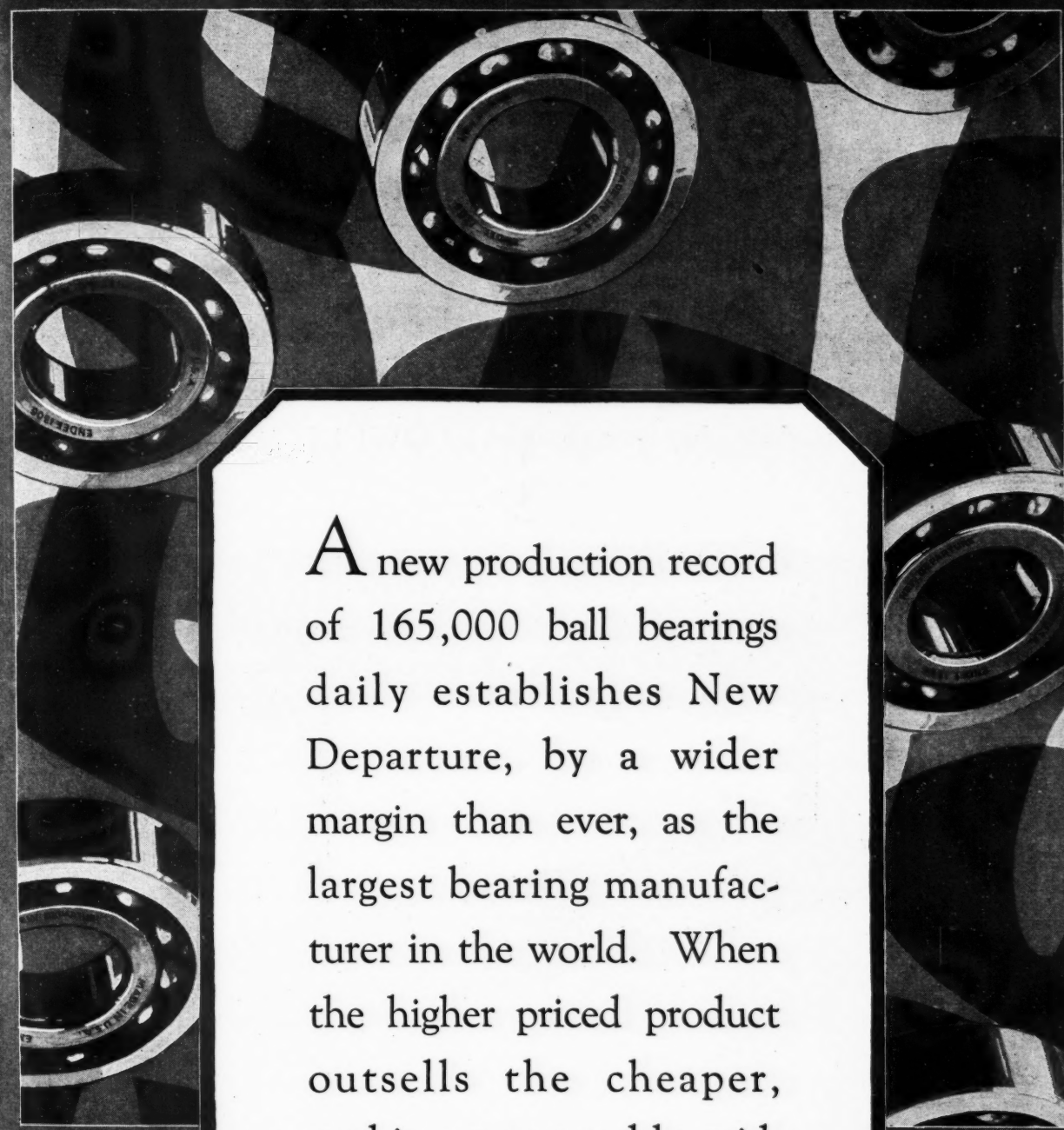
Nash sold 37% more cars than its nearest six-cylinder competitor during the month of September. Only Ford and Chevrolet were ahead.

"THE Nash '400' should outsell everything in its price class"—That's what experts said last June when they first saw the new "400" . . . No truer, sounder prediction was ever made for motor car success . . . For that's exactly what the "400" is doing . . . North, East, South, West—every point on the compass—enthusiasm for Nash is driving sales upward . . . In place after place, Nash is forging ahead to *FIRST* position in its price class . . . *The leader in value takes its logical place as the leader in actual sales . . . The country has gone Nash!*

NASH "400"

Leads the World in Motor Car Value

(9143)



A new production record of 165,000 ball bearings daily establishes New Departure, by a wider margin than ever, as the largest bearing manufacturer in the world. When the higher priced product outsells the cheaper, nothing more need be said.

New Departure Ball Bearings

The New Departure Manufacturing Co.
Chicago, Detroit, San Francisco

CAR OWNERS HATE — —

Get that "clean shop" look about your place and business will come your way, because car owners just hate to leave their cars in a sloppy, untidy shop.

To give your place that slick appearance install

"HALLOWELL" STEEL WORK-BENCHES

they look so clean, neat and business-like and last a life time.

The most up-to-date have one HALLOWELL Bench for each mechanic.



Pat'd and Patents Pending

"HALLOWELL" INDIVIDUAL STEEL WORK-BENCH

WE SHIP FROM STOCK—WRITE FOR BULLETIN 386

STANDARD PRESSED STEEL CO.



BRANCH
28 N. Clinton St.
CHICAGO, ILL.

JENKINTOWN, PENNA.
BOX 517

BRANCH
944 Harper Ave.
DETROIT, MICH.

MOTOR AGE

VOLUME LIV

Philadelphia, November 1, 1928

NUMBER 18

Production Still Holds at Normal

Output for First Nine Months of '28 Gains Over Last Year

GOOD SEPT. GAIN

WASHINGTON, Oct. 31—Production of cars and trucks in the United States and Canada in September totaled 434,915 as against 492,601 in August and against 271,649 in September last year. Production for the first nine months of 1928 totaled 3,671,727 as against 3,068,255 in the same period last year and against 3,680,241 in the first nine months of 1926.

Revisions of the August total bringing the production to 492,601 is an increase of about 3000 over the last month's Department of Commerce report. In the revision the passenger car total was increased about 2000 and the truck total by about 1000.

Passenger car production in the United States in the first nine months totals 3,064,237 as against 2,540,312 last year. Truck production for the same period in the United States was 404,838 against 366,360. Canadian passenger car production in the first nine months was 168,833 against 133,184 last year, and truck production was 33,819 against 28,399.

September passenger car production in the United States was 358,872 against 400,593 in August and against 226,443 in September last year.

Studebaker Elects

SOUTH BEND, IND., Oct. 30—E. L. Lalumier, of Armour & Co., Chicago, was elected treasurer of the Studebaker Corp. at a meeting of the board of directors today. He succeeds J. L. Overlock who becomes assistant to the president. H. E. Dalton, general auditor, was elected secretary of the corporation, which position he will fill in addition to that of auditor. K. B. Elliot, certified public accountant, was made assistant treasurer.

C. A. Geiger Dies

CLEVELAND, Oct. 27—C. A. Geiger, former president of the Troy Wagon Works Co. and a pioneer in the building of trailers, was killed in an automobile accident at Mansfield, Ohio, Oct. 7. Mr. Geiger was 69 years old and had retired from active business. He was active in the trailer business for many years.

Obsolescence? The Packard Company Never Heard of it

+ - + - +

C. A. Marshall, garage owner at Candor, N. Y., recently was very much surprised when he received from the Packard Motor Car Co. a new needle valve for the carburetor of his 1901 Model B Packard car. He had written to the Packard company remarking how well his car was operating and expressing the wish that he could find a new needle valve for the carburetor. The Packard company immediately sent him a new needle valve and informed him that they were able to furnish replacement parts for the Model A car made in 1899.

Comings Addresses Dealers

PATERSON, N. J., Oct. 26—The Paterson Garage and Repairmen's Association has been organized. J. D. Bacon was elected temporary chairman and W. S. Willis, temporary secretary. A committee of six was appointed to draft a constitution and by-laws.

A. V. Comings gave an address telling of the organizations of garage men existing in other cities and of the benefits derived from such organizations. James J. Fitzgerald, secretary of the Chamber of Commerce, spoke of the benefits in improvement of business conditions to be obtained through organizations.

Enthusiasm and interest in the new organization was expressed by those present and all signed cards pledging their support.

Reduce Registration Fee

BOSTON, Oct. 27—Motor Vehicle Registrar George A. Parker has announced the new scale of fees that the motor vehicle owners are required to pay under the new Massachusetts law, that passed a gasoline tax and dropped the registration fees on those using gas-driven machines.

Coast Plant for Bigler

OAKLAND, CALIF., Oct. 27—F. A. Bigler, president of the Bigler Manufacturing Company of Chippewa Falls, Wis., announces he will establish a factory in or near this city to produce Bigler motor trunks. He is on this coast to select a warehouse site.

Parts Accessory Trade Increasing

Seasonal Decline Is Felt But General Gains Are Recorded

BIG PARTS ORDERS

NEW YORK, Oct. 30—Manufacturing in parts and accessories during September showed a seasonal decline, according to figures just made public by the Motor & Accessory Manufacturers Association, but in all branches this business has continued ahead of business a year ago.

Business in replacement parts has even shown an advance over August business while other groups and the grand index for the whole group showed a decline. The index for September, 1928, in replacement parts, based on January, 1925, as 100 was 185. This compares with 176 in August and with 181 in September a year ago.

Index for original equipment is 218 as compared with 230 for August and 139 in 1927. Accessories showed an index of 122 for September as compared with 147 in August and 163 in September a year ago.

Service equipment index is 140 as compared with 148 for August and 127 last year. Grand index for the entire industry is 202 and compares with 212 in August and with 146 for September, 1927.

Willard L. Velie Dies

CHICAGO, Oct. 25—Willard L. Velie Sr., 62, president of Velie Motors Corp. of Moline, died yesterday at his home. He was a graduate of Yale in the class of 1889. He married Miss Ann F'louwerree in Helena, Mont., in 1890. She is now traveling in Europe. There is one son, Willard L. Velie, Jr., of Moline, and one daughter, Mrs. Marjorie Hurd, wife of Commander William Hurd.

Hudson Net Income

NEW YORK, Oct. 26—Hudson Motor Car Co. reports net income for the third quarter of the current year after all charges as \$3,121,632. This is equivalent to \$1.95 a share and compares with \$4,224,975, or \$2.65 a share for the corresponding quarter of 1927. Net income for the nine months ended September 30 was \$12,337,953, or \$7.72 a share, as compared with \$14,042,536, or \$8.79 a share, for the corresponding quarter of 1927.

Chevrolet Plant in K.-C. Ready Soon

Branch to Start About Dec. 1.
Detroit Officials Visit City

KANSAS CITY, Oct. 26—The Chevrolet Motor Co.'s new \$2,500,000 factory here will be ready for operation about Dec. 1. The announcement was made from the company's offices here after a visit of inspection by officials from Detroit. Plans are being made for a public celebration when the first car runs off the line. The plant, when it gets under production, will employ approximately 1200 men. Arrangements have been made by the company with the Missouri Pacific railroad to move five cars of automobiles from the plant every 22 minutes. This will be in addition to the drive-aways, which, it is expected, will be large.

"Roughometer" Tests Roads

WASHINGTON, Oct. 26—A "Roughometer" designed to measure the roughness of road surfaces has been perfected by the Bureau of Public Roads, and is being adopted by many states, according to the Department of Agriculture. The device is used to calculate and record the speed of a vehicle in any instance and simultaneously to record the time and distance from any fixed point at the start of the trip. The instrument is based on the principle that the amount of spring deflection of

President



Ward S. Perry

WARD S. PERRY, president of the Vesta Battery Corp., recently elected president of the National Battery Manufacturers Association, has stated that the establishment of uniform standards for testing batteries and a uniform method of cost accounting will be the major activities of the association during the coming year.

an automobile bears a direct relation to the degree of roughness of the road. The recorder gives the total amount of spring compression in inches for any given distance and permits a relative estimate of their roughness.

Courtney Johnson Hudson Sales Mgr.

Succeeds R. T. Romine, Who
Has Resigned, Due to
Ill Health

DETROIT, Oct. 27—Courtney Johnson has been appointed general sales manager of the Hudson Motor Car Co. succeeding R. T. Romine who has resigned because of ill health, it was announced today by O. H. McCornack, vice-president.

Mr. Johnson has been in the industry fifteen years and with the Hudson organization as a sales executive for five years. In this time he has traveled extensively over the United States and has become well acquainted with both the national sales conditions and with the members of the Hudson-Essex sales organization.

In his new position Mr. Johnson becomes head of a sales system which has more than 5000 distributors and dealers in the United States and which for several years has sold an average of over a quarter million 6-cylinder cars annually. In 1928 this organization has scored its greatest sales total and sales plans are now complete for even a larger and more aggressive campaign in 1929.

Mr. Johnson, a Princeton man, spent his early years in the industry with the Dort Motor Car Co. and after leaving there was associated with Gardner for a short time before joining Hudson.

The Automotive Calendar

SHOWS

Albany, N. Y., State Armory, Jan. 19-26.
*Atlanta, Ga., Auditorium Armory, Jan. 14-19.
Baltimore, 5th Regiment Armory, Jan. 19-26.
Boston, Mechanics Bldg., March 2-9.
*Buffalo, N. Y., 174th Regiment Armory, Jan. 12-19.
*Chicago, National Coliseum, Jan. 26-Feb. 2.
Cincinnati, Music Hall, Jan. 13-19.
Cleveland, Public Auditorium, Jan. 26-Feb. 2.
Columbus, Ohio, Columbus Auditorium, Jan. 18-26.
Denver, Colo., Auditorium, Feb. 11-16.
Des Moines, Iowa, Coliseum, Feb. 18-23.
Detroit, Convention Hall, Jan. 19-26.
Detroit, Convention—National Automotive Parts Association, Oct. 29-Nov. 3.
*Hartford, Conn., State Armory, Feb. 16-23.
Kansas City, Mo., American Royal Bldg., Feb. 9-16.
Los Angeles, Washington Park, March 2-10.
Louisville, Ky., Armory, Jan. 21-26.
Milwaukee, Wis., Auditorium, Jan. 12-19.

Nashville, Tenn., Hippodrome, January.

National Standard Parts Association, Cleveland Auditorium, Oct. 29-Nov. 3.

Newark, N. J., Jan. 12-19.

*New York, National, Grand Central Palace, Jan. 5-12.

Peoria, Ill., Feb. 5-9.

Philadelphia, Commercial Museum, Jan. 12-19.

Quebec, Can., Drill Hall, Mar. 16-23.

Rochester, N. Y., Edgerton Park, Jan. 21-26.

Saginaw, Mich., Auditorium, Feb. 27-Mar. 2.

Salon, Automobile Salon, Inc., Hotel Drake, Chicago, Jan. 26-Feb. 2.

Salon, Los Angeles Motor Car Dealers Assn., Biltmore Hotel, Oct. 17-20.

Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles, Feb. 9-16.

Salon, Automobile Salon, Inc., Hotel Commodore, New York, Dec. 2-8.

Salon, Automobile Salon, Inc., Palace Hotel, San Francisco, Feb. 23-March 2.

San Francisco, Civic Auditorium, Jan. 26-Feb. 2.

Seattle, Feb. 2-10.

Springfield, Mass., Municipal Auditorium, Feb. 25-March 2.

St. Louis, City Market Bldg., Feb. 4-9.

Syracuse, Feb. 4-9.

Ottawa, Canada, Feb. 4-9.

Pennsylvania Automotive Association, Allentown, Pa., Oct. 15-16.

*Washington, D. C., Washington Auditorium, Jan. 26-Feb. 2.

Providence, R. I., Cranston St. Armory, Feb. 13-16.

CONVENTIONS

American Society of Mechanical Engineers Annual Meeting, N. Y. C., Dec. 3-7.

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27.

National Automobile Dealers Association, Palmer House, Chicago, Ill., Jan. 28-29.

National Standard Parts Association, Hollenden Hotel, Cleveland, Oct. 29-Nov. 3.

National Tire Dealers Association, Boston, Mass., Nov. 19-22.

S.A.E.

Detroit, Book-Cadillac, Annual Meeting, Jan. 15-18.

Newark, Robert Treat Hotel, Transportation Meeting, Oct. 17-19.

New York, Annual Dinner, Hotel Waldorf-Astoria, Jan. 10.

*Will have special shop equipment exhibit.

"Hupp-Mark" to be Used Car Standard

New Symbol to be Used Only on Better Cars Taken in Trade

DETROIT, Oct. 26—"Hupp-Mark" is the symbol which the Hupp Motor Car Corp. has adopted for its dealer organization to designate the better type of used cars which will be merchandised under the "Hupp-Mark" program.

Decision of the Hupp Motor Car Co. to adopt the used car merchandising plan for its dealers comes after long and careful consideration of the subject. It is not intended to have the Hupp-Mark on all used cars as its indiscriminate use would depreciate the value of the symbol. It will be placed only on cars that represent unusual value by reason of condition, appearance, make and price.

The new symbol is described as a red square on a blue Roman cross. Inside the square are the words "Hupp-Mark" in the form of a circle. On the arms of the cross appear the words, "Used Car," "Value," "Quality" and "Protection."

"Cars which bear the Hupp-Mark will be the flower of the used car field," says a company bulletin. "Hupmobile dealers have this year received a large number of fine motor cars in trade on new Century Sixes and Eights. The best of these have been selected and set aside to bear the new symbol. Some of them are practically new. All of them have been made like new by thorough inspection and reconditioning. They will be sold under the Hupp-Mark as the dealer's pledge of their value.

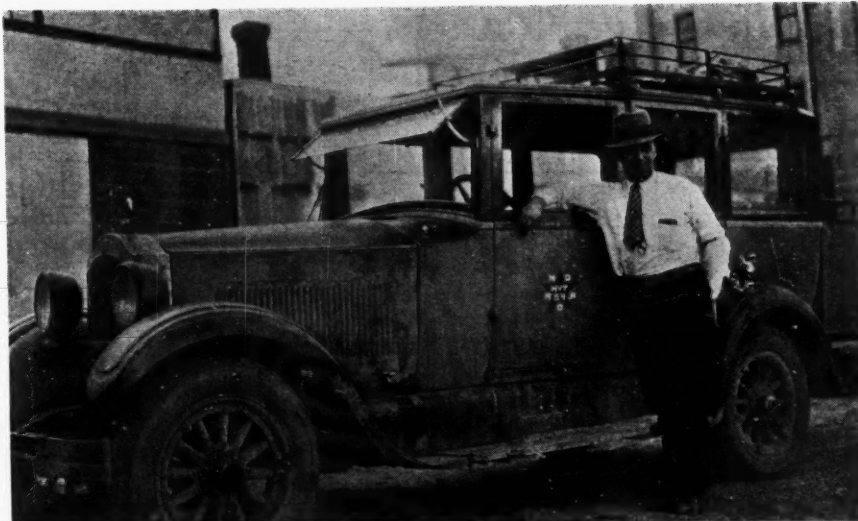
"All cars selected as worthy to bear the Hupp-Mark are offered in sound mechanical condition. They are road-tested, checked and priced to assure owner satisfaction in mileage—anywhere from 10,000 to 100,000 miles."

Du Pre Motor Co. Changes

COLUMBIA, S. C., Oct. 26—Claude M. Creason, former manager of the Capital Motors, Inc., of Columbia, has joined the force of the Du Pre Motor Co. as general sales manager. J. Monroe Peake, for a number of years with Mr. Du Pre when the latter was distributor for Ford cars, has again become affiliated with the company and is in charge of the service department.

Commercial Credit Income

NEW YORK, Oct. 26—Commercial Credit Co. reports net income for the third quarter of 1928 after all charges as \$1,208,656. This is equivalent after preferred dividends to \$1.27 a share on its 680,000 shares of no par common stock, and compares with a net income of \$760,962, or \$1.11 a share, in the preceding quarter and with \$358,125, or 52 cents a share, for the correspond-



Record Breaker

THIS model 1925 Studebaker Special Six has travelled 221,000 miles, operating over a bus route out of Williston, North Dakota. It carries from 400 to 700 pounds of mail daily. George Carpenter is the owner and he reports that it is running better today than ever before

ing quarter of 1927. Net income for the nine months ended Sept. 30 was \$2,973,801, equivalent, after preferred dividends, to \$2.82 a share. This compares with net income on common stock of \$460,578, or 67 cents a share, for the corresponding period of 1927.

Day-Morrill Has Peerless

CLEVELAND, Oct. 26—Peerless Motor Car Corp. has announced the appointment of the Day-Morrill Co. as distributor.

The Day-Morrill Co. is successor to the Chase-Morrill Co., which for a number of years has been known on the Coast as a very successful distributor.

Vance H. Day, who is well known along the Pacific Coast as Falcon-Knight representative, is president of the newly-formed company. Harry B. Morrill, who has been president of the Chase-Morrill Co. for the last five years, is vice-president.

Employees Insured

NEW YORK, Oct. 25—Employees of the Thorrez and Maes Manufacturing Co., of Jackson, Mich., maker of automobile parts, have been provided with group life insurance, through the adoption of a program underwritten by the Metropolitan Life Insurance Co. The plan includes more than \$50,000 of life insurance, and the advantages of a visiting nurse service.

Distributor Appoints

SEATTLE, WASH., Oct. 27—Casey-Bowyer, Inc., Marmon distributor in western Washington, have named as dealers Frank McCafferty, Fairbanks, Alaska; Hubbard & Keffler, Tacoma, Wash.; Chehalis Marmon Motor Co., Chehalis, Wash.; Wickstrom & Widener, Yakima, Wash.

Sales Force Plays Football

SPOKANE, Oct. 26—The Wells Chevrolet Co., Spokane, has divided the sales force into two teams and are playing a football game throughout October, according to James Whitelaw, vice-president and general manager.

"The contest was worked out in the form of a football game, each salesman being assigned a position on a team," said Mr. Whitelaw. "New car sales count 20 yd., used car sales 10 yd., future orders 5 yd. and penalties ranging from 5 to 15 yd. are fixed for being late at the morning meetings, failure to turn in reports and other violations.

The idea was worked out by R. C. Wells of the sales promotion department and Lee Bennett, retail sales director.

Reo Motor Car Co. Profits

NEW YORK, Oct. 26—Reo Motor Car Co. reports for the quarter ended Sept. 30 a net profit of \$1,543,511 after depreciation and Federal taxes, equivalent to 77 cents a share earned on 2,000,000 shares of stock. This compares with \$3,104,633, or \$1.55 a share, in the preceding quarter and contrasts with a net loss of \$86,489 in the quarter ended on March 31. Net profit for the first nine months of 1928 totaled \$4,561,656, equal to \$2.28 a share.

Plaza Marmon Company

KANSAS CITY, Oct. 27—Marmon Motors, Inc., Marmon distributor here, announces the opening of a new retail sales agency. The agency is located in a new building on Country Club Plaza, a trading center near the finest residential section of the city. N. D. Graham, who has been associated with the Marmon distributorship, is to be general manager of the company which will operate as the Plaza Marmon Co.

Traffic Congestion National Problem

U. S. Bureau of Public Roads
Makes Studies and
Recommends

WASHINGTON, Oct. 27—Traffic congestion heretofore considered a problem only in cities, has spread into the country, according to a survey just completed by the U. S. Bureau of Public Roads, making certain recommendations for future construction of highways tending to increase speed and decrease menace to life and property.

The outstanding need, the Department advises, for highways is the acquisition of wider right-of-ways in order to allow for future widening of same. It also demands that highways be designed for safe use at higher speeds, and that arterial routes be improved with the service of the entire route in mind. In metropolitan areas congestion has emphasized the urgency of grade crossing elimination, wider pavements, and the building of relief and by-pass highways.

Taken as a whole, traffic on the roads of the United States has doubled in less than five years, and in some states it is still increasing at an even more rapid rate. The design of motor vehicles has been so perfected that greater speed can be attained without increasing the hazard as far as the vehicles themselves are concerned. Development of common-carrier buses is still in its infancy.

To care for the ever growing and changing traffic, and to make a wise allotment of available funds, the Federal Government and State highway departments have found that some index of future highway needs is necessary as a working basis. Such an index they have acquired in their studies on the flow and growth of highway traffic in various sections of the country. From these studies, future needs are anticipated in reestablishing the location and in planning the structure of highways. Also a more efficient expenditure of funds is possible.

Seek Oldest Traveler

NEW YORK, Oct. 26—"Some confusion seems to have arisen over what is meant by 'oldest traveling salesman' in the announcement we issued last week inviting the oldest traveling salesman in the United States to a banquet in New York City, Nov. 17." John H. Love, chairman of the National Traveling Salesmen's Foundation and treasurer of the Merchants' Association of New York said yesterday at Foundation headquarters, 277 Madison Avenue, New York City:

"People want to know whether we mean actually oldest in years or longest on the road. Since we have received replies from men in both groups we have decided to have both the oldest

Vice President



Helm Walker

HELM WALKER has been appointed Director of Moon factory sales and advertising. Mr. Walker, who has also been named a vice-president by the board of directors, was previously manager of the Moon factory branch in Chicago.

traveling salesman in point of years and the oldest in point of service as Guests of Honor at the banquet."

The two oldest traveling salesmen, when they are found, no matter what section of the country they are in, will be brought to the Hotel Astor, New York, with all expenses paid by the National Traveling Salesmen's Foundation, from a special fund given for this purpose, to attend a banquet on Dec. 4 which will inaugurate a drive to endow a \$3,000,000 home and hospital for aged, indigent and incapacitated traveling salesmen. The home will be built on a 1000 acre tract at Winston-Salem, North Carolina, donated for the purpose.

Plane Salesroom for K. C.

KANSAS CITY, Oct. 27—There is a "stranger" on Motor Row in Kansas City. The American Eagle Aircraft Corp., here, has opened a display and salesroom at Eighteenth and McGee Streets, in the very heart of Motor Row, and is showing a complete line of the company's planes which are made here. The American Eagle company is expanding, stock being sold to make it a \$1,000,000 corporation. The offices of the Porterfield Flying School, a subsidiary of the company, are located with the salesroom.

Oldsmobile Ships 6500

DETROIT, Oct. 25—Oldsmobile shipments from the plant during October will approximate 6500 units. This is far in excess of the shipments for the same month of 1927.

Kettering Speaks at Columbia Univ.

Predicts the Use of Express
Highways Throughout
Country

NEW YORK, Oct. 26—C. F. Kettering, president of General Motors Research Corp., speaking on behalf of the automotive industry, at the fifth conference of Major Industries held under the joint auspices of Columbia University and the Institute of American Meat Packers at the University, pointed out the breadth of influence exerted by that industry on other industries. This industry, he said, consumed 16 per cent of the steel produced, 85 per cent of the plate glass produced, 85 per cent of the rubber and 80 per cent of the gasoline produced in this country. The automobile today has given humanity the means of the realization of its inherent desire to move around and from the class of something that man wants has graduated to the class of something he needs. It has contributed widely to the raising of economic standards throughout the world.

Inasmuch as the automobile manufacturer is producing primarily transportation, it will become necessary in the near future for the construction of express highways, Mr. Kettering pointed out. These express highways will start out in congested areas and finally expand throughout the country. When these have reached sufficient importance, it will be feasible for the average individual driving his own car to travel around the country at from 60 to 70 miles an hour, in his opinion.

Charles E. Mitchell, president of the National City Bank, said that 1928 would probably be a record year in business. He pointed out as one healthy indication the fact that although automobiles have been selling in larger numbers than last year the amount involved in time sales is less than a year ago.

Myron C. Taylor, chairman of the finance committee of the U. S. Steel Corp., reviewed conditions in the iron and steel industry.

Walter S. Gifford, president of the American Telephone and Telegraph Co., discussed modern communication and Frank B. Noyes, president of the Associated Press and the Washington Star, spoke on printing and publishing.

Following the conference sessions, a pioneer-in-industries dinner was held at the Hotel Astor. Among those attending this dinner were R. E. Olds, Walter P. Chrysler and Harvey S. Firestone.

Made Lansing Nash Dealer

DETROIT, Oct. 26—Miller-Judd Co., Detroit, state distributor for Nash motor cars, has announced the appointment of the Abel Motor Sales Co. as authorized Nash dealer for Lansing and vicinity.

Boynton Is Made M.E.A. President

Merger of M. A. M. A. &
A. E. A. is Consummated
at Chicago

CHICAGO, ILL., Oct. 30—The new Motor and Equipment Association has for its first president N. H. Boynton of the National Lamp Works, Cleveland, who for more than 10 years has been active in both production and distribution fields. The new association made possible through the merging of the Automotive Equipment Association and the Motor and Accessory Manufacturers Assn., came into official being at the Thirteenth Annual Convention of the A.E.A. held here October 22 to 27. The organization plan provides for the functional division of the membership of the two older associations into three groups as follows:

Group A—Manufacturers selling for original equipment only; producers of raw materials; and manufacturers of machinery and tools sold to manufacturers.

Group B—Manufacturers who distribute through wholesale channels only; or manufacturers who distribute through wholesale channels and sell also for original equipment.

Group C—Wholesale distributors.

John M. McComb, vice-president of the Crucible Steel Co. and president of the Motor & Accessory Mfrs. Assn. until the merger, was elected vice-president for Class A. W. S. Isherwood, active for many years in the Automotive Equipment Assn., and sales manager of the AC Spark Plug Co., is vice-president for Group B. Elton Seager, an automotive equipment wholesaler, who is president of the Pennsylvania Rubber & Supply Co., is vice-president of Group C. Other officials include George Burr, of the SKF Industries, treasurer; M. B. Ericson, president Biflex Products Co., assistant treasurer; and G. L. Brunner, general manager Brunner Mfg. Co., secretary.

Old Car Contest Extended

NEW YORK, Oct. 26—Closing time for entries in the Old Car Contest which is being conducted by the National Automobile Chamber of Commerce has been extended to Nov. 15. Despite the original announcement that the entries would be limited to vehicles made prior to 1900, many would-be contestants have submitted cars of later date. There are cash prizes totaling \$1500. There are also special awards of a new Yellow Cab or an automobile worth up to \$2000 for information as to the location of one of the electric hansom cabs, made by the Electric Vehicle Co., prior to September, 1899. Further particulars of the contest may be obtained from the Chamber offices, 366 Madison Avenue, New York.

3000 Years in Jail and \$50,000 Fines for Auto Thieves

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DURING the fiscal year ending June 30, 1928, a total of 2055 persons were convicted under the Dyer automobile motor theft act, the Department of Justice announces. These convictions for transporting stolen automobiles interstate netted penalties of 3000 years and \$50,153 in fines. During the year 3455 stolen automobiles were recovered valued at \$2,391,371. Since the life of the act from 1919 to date 17,702 stolen automobiles, valued at \$14,391,000, have been recovered, the department announces.

Do Shop Work in Window

NEWARK, Oct. 26—A service display being held in the showroom window of the DeCozen Motor Co., Chrysler distributor, is attracting considerable attention. The actual reconditioning of Chrysler cars is going on where all can see details of the operations.

The mechanics working in the window have kept a continuous knot of interested people both in and outside the display room. A sign invites those interested to enter and examine the work and parts used even more closely.

Fokker Offers Amphibian

NEW YORK, Oct. 26—Fokker Aircraft Corp. has designed a new line of planes on which it expects to start production shortly. Complete details are not yet available but among the new planes is to be included a large transport plane which will be larger than anything yet made in that field.

There is also included an amphibian monoplane with a new float and retractable landing gear design.

A third type is an enclosed cabin monoplane, with a seating capacity of two to four passengers, for use in training purposes as well as personal and commercial transportation.

Cities Abandon Trolleys

MARION, OHIO, Oct. 26—Among the municipalities which have this year seen their street car service replaced by buses are Marion, Ohio, and Keokuk, Iowa. Twelve buses operated by the Marion Rapid Transit Co. will replace the trolley system.

Oakland Axles by Nov. 15

DETROIT, Oct. 26—The Oakland Motor Co.'s new axle division, which is necessitating an outlay of about \$2,000,000, and will add about 1500 men to the Oakland payroll, will be in full production about Nov. 15.

Mooney Back From Paris-London Shows

American Cars Lead European
in Style as Well as in
Performance

NEW YORK, Oct. 26—American automobiles are today establishing a criterion not only in performance but in beauty as well, according to J. D. Mooney, president of General Motors Export Co., who returned today on the S. S. Leviathan from a European trip during the course of which he visited the Paris and London salons.

"A few years ago," he said, "it was the European vehicle that set the style. Today it is definitely the American car that establishes the criterion of beauty as well as performance."

The automobile industry has only begun to supply the need of the world for passenger cars and trucks, in Mr. Mooney's opinion. He said that he feels that the surface of the world market has hardly been scratched, and that American manufacturers are just beginning to comprehend the full potentialities of the market.

General Motors Corp. is expanding its facilities abroad in order to fill the demand for cars that he feels is bound to come. New plants are being built and the dealer organization is being increased and refined.

Sales of General Motors abroad in 1928 will total over \$260,000,000. That company did more business overseas in May of this year than it did in the whole of 1922.

New Battery Service

SPOKANE, Oct. 26—Opening of a district office of the Phoenix Kant Kill Storage Battery Co. of Minneapolis, was announced in Spokane recently by T. S. McGinnis, who has been named district manager. The company is manufacturing a storage battery for automobiles and radios which, according to Mr. McGinnis, incorporates some unusual features.

"Tests show in demonstrations in Spokane that if the battery is run down from leaving the ignition turned on, it comes back to its full voltage without recharging," said Mr. McGinnis. "Dead shorting the battery does not buckle the plates and heat it as is the case with ordinary batteries."

E. M. Knoff Joins Stutz

Edward M. Knoff, zone manager for Willys-Overland, Inc., in the Memphis territory, has resigned to accept a position in the sales department of the Stutz Motor Car Co. He will be field representative for Stutz in the Ohio territory. Mr. Knoff has been associated with Willys-Overland for more than a year in the southern district and prior to that time was sales manager for the F. M. White Motor Co., Chandler distributor in Memphis.



German Auto Club Members Visit Studebaker Plant

MEMBERS of the Allgemeiner Deutscher Automobil-Club, German motor organization, were guests of The Studebaker Corporation of America at South Bend, Indiana, on October 19. The delegation, composed of 130 motor club members, arrived in the United States on October 7, for a 2000-mile motor tour of the leading cities in the eastern half of the United States and Canada under auspices of the American Automobile Association. The German visitors are pictured above at the Studebaker Administration Building after visiting the factory and proving ground, where Herr Ewalt Kroth, A.D.A.C. head, and members of the party were welcomed by Albert Russel Erskine, president of The Studebaker Corporation

Trico Has New Bldg.

BUFFALO, Oct. 26—The recently completed new building of Trico Products Corp., Buffalo, provides ample space for increased production of Trico products. This building is six stories high and it extends the depth of an entire city block, giving the Trico plant a total area of 180,000 sq. ft.

A large part of the additional facilities are being utilized in the production of the Visionall, Trico's twin-blade automatic windshield cleaning device, and considerable space is being devoted to the manufacture of the Antenna recently introduced by Trico.

Distributor Gives Dinner

HARTFORD, Oct. 25—Dealers from all over the state selling under State Motors, Inc., Graham-Paige distributors, were the guests of the management at a dinner given at the Hotel Bond last evening. W. S. Allan, head of the company, presided and discussed the plans for the coming year. O. H. Andrews, general manager, told of his trip to the factory at Detroit and discussed the sales possibilities for the future. C. E. Emery, wholesale manager, discussed the wholesale angle and Verner F. Gidman, wholesale representative, spoke on the situation as it affects the outside dealers.

The company has appointed as city associate dealers, the City Motor Co. at 995 Main Street and the Windsor Avenue Sales Co. at 1874 Main Street.

Ball Bearings for Springs

NEW YORK, Oct. 26—The Auto Spring Bearing Co. of Newark, N. J., is now prepared to place on the market a new ball bearing arrangement for springs in order to improve the riding qualities of automobiles.

The attachment consists of a small plate bearing 16 or 32 balls which is inserted between the longer spring leaves, thus decreasing the friction which is caused as the springs react to the jolts of the road.

200,000 Motorists Join

SEATTLE, WASH., Oct. 26—More than 200,000 western motorists are represented in the Western Motor Club Association comprising 15 automobile groups on and adjoining the Pacific Coast, recently formed in California, with the Automobile Club of Washington as the third largest of the participating organizations.

P.-A. May Build in Boston

BOSTON, Oct. 26—Officials of the Pierce-Arrow Motor Car Co. were in Boston this week conferring with a prominent contractor and builder getting estimates on the cost of erecting a new sales and service structure on the big lot of land on Commonwealth Avenue next to Graham-Paige and Packard. The land was purchased some years ago by the company as a possible site for such a building. It is one of the best locations on motor row.

Oliver-Cadillac Expands

ST. LOUIS, Oct. 26—The three-story building formerly occupied by the Dorris Motor Car Co., has been purchased by the Oliver-Cadillac Co. as a sales and service headquarters for Cadillac and LaSalle cars in the St. Louis district.

The building contains 75,000 feet of floor space and the Oliver-Cadillac concern plan on spending \$100,000 for repairs and improvements. A bus will be operated between the new headquarters and the downtown district for the convenience of customers leaving their machines for repairs.

Ford Plant Production Up

KANSAS CITY, Oct. 27—The production at the Ford Motor Co.'s assembly plant here has been stepped up to 250 cars a day, an increase of 10 cars daily being made a few days ago. The plant now is working two shifts, five days a week. New men are being trained gradually, a few being added to the force each week and production increased as the men are trained.

New Willys Dealer

KANSAS CITY, Oct. 27—Willys-Overland, Inc., here announces the appointment of a new dealer in Kansas City. The new company is the Ervin Fed Motor Co., Inc., with Ralph Greenlee as sales manager. The company's sales room and service department is located at 700-706 Walnut Street.

Overseas Group Holds Meeting

Members of Club Addressed by Many Prominent Speakers

NEW YORK, Oct. 26—Members of the Overseas Automotive Club heard general business conditions in Europe discussed by Cecil Peter of Black & Decker Co., at the regular meeting held at the Hotel Astor Thursday noon, October 11. Mr. Peter told of a motor trip covering several of the important countries of the continent and giving his impression of business conditions throughout Europe generally as showing a vast improvement.

Mr. Edward of Johannesburg, South Africa, who represents a number of automotive lines in South Africa and is prominent in automotive fields as a writer, addressed the gathering, on conditions in his territory.

Announcement was made of the program for the annual dinner of the club to be held at the Hotel Stevens, Chicago, Wednesday evening, Oct. 24, in connection with the Automotive Equipment Association show.

Martin L. Heminway, general manager of the Motor and Accessory Manufacturers Association, will speak at this dinner on the subject of building an international automotive industry.

Wallace Thompson, editor of *Ingénieria International*, will also speak; his subject has not been announced. An attendance of over 200 is looked for at this dinner, at which visitors from overseas will be guests of the club.

Distribute Gardner in N. E.

BOSTON, Oct. 27—The New England Velie Co. has been appointed wholesale distributor for the Gardner Motor Co. in New England. A separate organization has been formed to handle it comprising Amos J. Shorey, general manager, and Stewart P. Dunham, treasurer. Arthur King and E. L. Umlah, formerly territorial men for Gardner here, have joined the new company. The Velie line will be continued as formerly, and a number of the Velie dealers are signing up also to handle Gardner. R. O. Nemke, New England district factory manager, has returned to St. Louis, where he will join the sales organization.

A.B.C. No. 20 Elects Officers

LOS ANGELES, Oct. 29—Automotive Boosters Club, Southern California No. 20, has been organized with Jim Shirreffs as president. R. W. Cottle is vice-president; M. H. Klinger, treasurer, and P. W. Battelle, secretary. Directors are Roland Boreham, C. E. Buckmeyer, C. B. Dodge, E. L. Foos and G. F. Grove. A program of business and social activity has been outlined.

Gets New Post



C. B. Chapman

AFTER nine years with Hudson, C. B. Chapman is made general manager of Chicago factory branch and directing head of the sales territory known as the Chicago zone. Mr. Chapman's achievements are well known to the automotive industry.

Standard Signs & Signals

NEW YORK, Oct. 29—The American Engineering Council has completed its standard for traffic signs and signals to be used in connection with the recently adopted model municipal ordinance drawn up by the National Conference on Street and Highway Traffic.

This standard, drafted by the Engineering Council, recommends standard sizes, coloring and lettering for all types of street traffic signs and also indicates suggested approved methods for mounting of traffic lights.

Planes for Western Air Express

NEW YORK, Oct. 26—Fokker Aircraft Corp. is now manufacturing 10 of its large trimotor monoplanes of the F-10-A type at its plants in Wheeling, W. Va.; Hasbrouck Heights, N. J., and Passaic, N. J., for the order of the Western Air Express of Los Angeles and Salt Lake City. One of them will be employed to inaugurate the service between Los Angeles and San Francisco and six will be available for operation on new lines projected by the Western company.

New Wright More Efficient

NEW YORK, Oct. 26—Test flights on the new Wright Whirlwind J-6 300 hp. air-cooled engine were recently made by Colonel Charles A. Lindbergh, who visited the Wright plant at Paterson, N. J. This engine has 85 more horsepower than the old whirlwind and weighs 20 lb. less, according to Guy H. Vaughan, vice-president of the company.

Texas Associations Hold Get-Together

Three Organizations in Joint Meeting Elect Officers for Year

DALLAS, TEX., Oct. 26—The annual meetings of the Texas Automotive Jobbers Association, the Southwestern Automotive Jobbers Association and Boosters' Club No. 4, Southwest, were held here during the automobile show at the State Fair of Texas. At these meetings the work of the organizations was reviewed by the individual bodies and plans for the coming year discussed.

The Boosters were hosts to the Texas and the Southwestern Automotive Jobbers Associations and to a number of manufacturers and automobile dealers at a cabaret dinner one evening. This feature is staged annually by the Boosters Club during the Dallas automobile show.

Officers elected by the Texas Automotive Jobbers Association for the coming year are: Frits Strauss of San Antonio, president; Aubrey Meador of Waco, vice-president. It is understood the secretary will be reelected. The directors are William L. Morrow of San Antonio; Ray L. Simpson of Dallas, and Aubrey Meador of Waco.

Officers of the Southwestern Automotive Jobbers Association are: Harry D. Howard of Wichita; R. E. Browning of Oklahoma City, vice-president; Phil C. Huffman of Wichita, secretary. The directors are C. N. Neale of Shawnee; O. and J. W. Brownlow of Springfield, Mo.

The Boosters elected the following officers: D. H. McFadden of Dallas, president; H. M. Gree, vice-president; Bryan Snyder of Dallas, secretary. The directors are A. A. Ways, E. L. Shipp, Lee Tuttle, Robert Kelley and John E. Spencer of Dallas.

Burton S. Gier Dies

DETROIT, Oct. 25—Burton S. Gier, 61, Lansing, founder of the Gier Pressed Steel Co. and director of the Motor Wheel Corp. of which the pressed steel plant later became a unit, died at the Mayo Brothers' sanitarium at Rochester, Minn., Oct. 19.

Sales Over 1927 Totals

SPOKANE, Oct. 26—The volume of car sales by Transport Motor Co., distributor of Willys-Knight Whippet, Spokane, during the first nine months of 1928 was greater than the entire volume of 1927, according to E. P. Olson, sales manager.

"Our records show that through our retail outlets in Spokane, Seattle and Yakima, and our wholesale department our volume was \$3,712,590.43 to the end of September this year," said Mr. Olson. "All of last year our volume was only \$3,065,459."

N.S.P.A. Show *and* Opening of New

*277 Booths to Display Man-
cluding Replacement
terials, Shop Tools*



L. T. White, Raleigh, N. C., president,
N. S. P. A.

Facts About N.S.P.A. Show and Convention

Place: Cleveland; Show at Auditorium.

Date: Oct. 29-Nov. 2.

**277 Exhibits, including replacement parts, main-
tenance materials, shop tools and equipment.**

**Export dinner, Monday evening, Oct. 29, Hotel
Hollenden.**

**Open Trade Night, Tuesday evening, October 30;
repairmen, car dealers, bus maintenance men
and other members of the trade will be invited.**

**Annual Entertainment, Wednesday evening, Oct.
31, Auditorium.**

CLEVELAND, Oct. 29—The National Standard Parts Association opened a new selling season today with a show and convention. The 1928 exhibition from present indications will be the largest and most complete ever presented to the industry. As last year, it is staged in the Auditorium, 60,000 sq. ft. of floor space having been retained for the purpose.

Owing to the great number of applications for space, it was necessary for the management to obtain a lease on the large arena as well as exhibition hall. There are 277 booths presenting manufacturer exhibits covering automotive replacement parts, maintenance materials, shop tools and equipment. More than 4000 persons are expected to attend and many were in attendance this morning.

"Open Trade Night" is scheduled for Tuesday evening. Repairmen, car dealers, bus maintenance men, and other members of the trade will be invited. On Wednesday evening the annual entertainment will take place in the Auditorium. This year it will be in the form of a series of intercity boxing bouts, starting at 8.30 p. m. and presenting a two and one-half or three-hour program.

The convention program is filled with speakers of

high quality and the subjects chosen promise a feast of merchandising information and education. Principal speakers and their subjects include:

Major J. D. Carson....."The New Competition"
Dr. Hugh P. Baker....."Know Your Association"
Chester Leasure..."This Business of Getting Together"

An export dinner will be held Monday evening, Oct. 29, at the Hollenden Hotel. The principal speaker will be Dr. Julius Klein, director of the Bureau of Foreign and Domestic Commerce, United States Department of Commerce. Since last year 66 new members have been added to the roster, bringing the total membership up to 330. Nearly 40 additional applications are now being considered. The N.S.P.A. includes 178 jobber members and 152 manufacturer members, among whom are residents of Canada, Australia and New Zealand. The roster includes many of the most prominent manufacturers of replacement parts, maintenance materials, shop tools and equipment manufacturers in the country.

The Merchandising Service Department has carried to the jobbers and repairmen its message of better merchandising. As a result of such a campaign, many local and regional associations have come into existence in all parts of the country, thus providing a vehicle

Convention Mark Selling Season

Manufacturer Exhibits, In- Parts, Maintenance Ma- and Equipment

for a better understanding between local competitors and for the cooperative solution of many vexing local problems. Jobber members are reporting up to 40 per cent increase in their 1928 business and a general survey of the causes of this large increase, developed the fact that the work of the Merchandising Service Department is entitled to a good share of the credit.

Having helped to create new business for the jobbers, the association is also conducting a campaign for better financial control, better stock control and better business administration. The standardized systems of bookkeeping, stock control and general business administration are operating with marked effect to the benefit of those who have adopted them.

Some 27 standardized systems are in operation throughout the country and all users are reporting successful experiences. One jobber is reported to have saved \$5,000 through the use of the bookkeeping and stock control system, while another has been saved \$3,500 a year on his overhead through application of the principles embodied in the business administration section, while still another jobber reports an actual time saving in his stock control system of 40 per cent as compared with a conventional card system which he previously used.

All three plans of organization are covered by the association's Manual of Standardized Practice of Accounting, Bookkeeping and Stock Control and the forms and equipment are made available through a leading accounting devices corporation.

The association has also embarked on a national advertising campaign through the trade press. The campaign directs the attention of the repair trade to the dependability of N.S.P.A. products and the numerous advantages of dealing with N.S.P.A. jobbers and emphasizes the N.S.P.A. emblem as signifying quality products and dependable service.

The catalog committee has spent a profitable year in the study and investigation of the proposed plan of adopting universal stock numbers, covering all lines of replacement parts. The committee ascertained the experiences of those manufacturing groups who have already used universal stock numbers, as well as the reasons why wholesalers want them and the economy to be obtained by jobbers in their general use. The result of these investigations and studies has been

W. E. McIlroy,
New York, vice-
president, N.S.P.A.

N. S. P. A. show and
convention sticker



compiled into a booklet and distributed to the manufacturer members with a view to getting their earnest consideration to the general adoption of universal parts numbers.

The International Trade Committee, formerly known as the Foreign Relations Committee, has made much progress in the perfection of the association's export service to manufacturer members. George E. Quisenberry, of New York City, has been appointed the export counsel and arrangements have been made whereby wholesalers' lists are now made available to manufacturer members covering any country in the world.

Two special trains from Chicago to Cleveland were pressed into service to carry delegates and visitors this year from Chicago and surrounding territories to the N.S.P.A. convention and show, according to C. M. Burgess of the Chicago Division of the N.S.P.A.

One special train was chartered last year and was so heavily patronized that two trains were secured for this year. One train traveled over the New York Central, leaving Chicago at 11.30 p. m. Saturday, Oct. 27, and arriving in Cleveland yesterday at 8.30 a. m. The other train left Chicago last night at 11.20 p. m. on the Nickel Plate route, arriving in Cleveland at 8.00 a. m. this morning.

Many other activities not outlined in the accompanying article are carried on by the N.S.P.A.

The detailed program of the convention is presented on the following page of this issue of MOTOR AGE and
(Continued on page 33)

N. S. P. A. Convention Program at Cleveland

SUNDAY, OCTOBER 28, 1928

Afternoon
2.00-5.00 Registration at Auditorium.
Evening
7.00 Trade Press Dinner.
(For Trade Press Delegates Only.)
Hotel Hollenden.
Speaker: C. A. Musselman,
President Chilton Class Journal
Co.

MONDAY, OCTOBER 29, 1928

Morning: Registration at Auditorium.
Official opening of Show.
Attendance not compulsory.
Open to guests.
Afternoon: First general session—compulsory.
Session open only to Delegates.
Alternates, Salesmen and the Press.
Evening: Attendance at Show—not compulsory.
Export dinner—open only to Manufacturing Delegates, Alternates, Export Managers, Overseas Guests and the Press.
Hollenden Hotel.

Morning Show Period
Attendance not compulsory
9.00 Registration at Auditorium.
10.00 Official opening of Show.

Afternoon Convention Session
Attendance compulsory
Grand Ballroom—Hotel Hollenden
2.00 Call to order.
2.01 Invocation.
2.10 Address of welcome,
Mayor John D. Marshall, Cleveland, Ohio.
2.30 President L. T. White's Address.
2.50 Executive Vice-President E. P. Chalfant's report of Association progress.
3.05 "Solving Merchandising Problems,"
Merchandising Service Director T. O. Duggan.
3.40 "Association Advertising,"
Vice-President W. E. McIlroy.
3.55 Resolution and Discussion.
4.10 "Our Association Publication,"
Director R. A. Kiken.
4.30 Amendments to Constitution and By-Laws.
4.40 Resolution and Discussion.
4.55 Appointment of Nominating Committee.
5.00 Adjournment.

Evening
7.00 Export Dinner—Hotel Hollenden.
A prominent speaker.

TUESDAY, OCTOBER 30, 1928

Morning: Show attendance—compulsory.
Afternoon: Second general session—compulsory.
Open to all invited guests.

Evening: Divisional meetings—compulsory.
Open only to Delegates, Alternates and the Press.
Trade night at show—not compulsory.

Morning Show Period
Auditorium
Attendance compulsory
10 to 12 M. Show period.

Afternoon Convention Session
Grand Ballroom—Hollenden Hotel
Attendance compulsory
2.00 Call to order.
2.01 Dedicatory Address.
2.15 Announcements.
2.20 "The New Competition."
Major J. D. Carson.
3.30 "Know Your Association."
Dr. Hugh P. Baker.
4.30 Discussion and Questions.
5.00 Adjournment.

Evening Convention Session
Divisional Meetings—Hollenden Hotel
Attendance compulsory
8.00 Manufacturers' Meeting—South Banquet Hall.
8.00 Jobbers' Meeting—North Assembly Hall.
Salesmen may not attend these meetings.

Evening Show Period
Auditorium
7.00 Trade night—not compulsory.
Open to all Dealers, Service Station Men, Fleet Owners, Bus Maintenance Men, Cylinder Regrinders, Garage Owners and Repairmen.

WEDNESDAY, OCTOBER 31, 1928

Morning: } Show attendance—compulsory.
Afternoon: }
Evening: Annual entertainment.

All Day Show Period
Auditorium
Attendance compulsory
10.00 A. M. to 5.00 P. M. Show attendance.
Should temporary absence be necessary during the period. Delegates may return by showing their Attendance Coupon Books at the entrance.

Evening
Auditorium
8.30 Annual entertainment—stag. Inter-City boxing bouts. Informal.
Open to all Members, their Employees and Guests.
No speeches.
Exhibition will close at 5.00 P. M.

THURSDAY, NOVEMBER 1, 1928

Morning: } Show attendance—compulsory.
Afternoon: }

Evening: Third general session—compulsory.
Open to Delegates, Alternates, Salesmen and the Press.

All Day Show Period
Auditorium
Attendance compulsory
10.00 A. M. to 5.00 P. M. Show attendance.
Should temporary absence be necessary during the period, Delegates may return by showing their Attendance Coupon Books at the entrance.

Evening Convention Session
Grand Ballroom—Hollenden Hotel
Attendance compulsory
8.00 Call to order.
8.01 Announcements.
8.10 Report of Jobbers' Divisional Meeting.
Secretary R. Macfee.
8.15 Discussion.
8.25 Report of Manufacturers Divisional Meeting. Secretary R. Macfee.
8.30 Discussion.
8.40 Open Forum—20 minutes.
9.00 Report of Nominating Committee.
Nominations from the floor.
9.15 Balloting.
Announcement of elections.
Installation of new officers.
Introduction of new directors.
Adjournment.

FRIDAY, NOVEMBER 2, 1928

Morning: Show attendance—compulsory.
Show officially closes at 1.00 P. M.
Afternoon: Fourth general session—compulsory.
Open to Delegates, Alternates, Salesmen and the Press.
Evening: No convention—no show.

Morning Show Period
Auditorium
Attendance compulsory
10.00 A. M. to 12.00 M. Show attendance.
1.00 P. M. Show closes.

Afternoon Convention Session
Grand Ballroom—Hollenden Hotel
Attendance compulsory
2.00 Call to order.
2.01 Invocation.
2.10 "This Business of Getting Together."
Chester Leasure,
Associate Editor "Nation's Business."
3.15 "Sales Psychology."
John E. Echlin.
4.00 General suggestions from the floor.
4.30 Closing remarks.
4.40 Final adjournment.

OLD Methods

*Are Bringing
Him New
Trade*

By ERNEST W. FAIR



Luther Jones finds that the public still responds to plain old-fashioned methods of business

LUTHER JONES is succeeding because of two policies. His general garage, recently opened at Ninth and Hudson Streets, Oklahoma City, is gaining patronage daily. First of all because of its cleanliness; secondly, because of the prompt service that it offers to motorists.

"There's nothing original or new in either of these ideas," says Jones. "They're just plain, old-fashioned methods."

The entire establishment is without doubt as clean as such a place can be. A woman can wait for her car anywhere in the station without the least danger of soiling her clothing. This is accomplished, says Jones, by paying as much attention to keeping things clean as to keeping customers satisfied with the jobs that are done for them. A corps of men is on duty all during the day, cleaning up, polishing and dusting. Their efforts are ceaseless. The result is cleanliness, and that, according to Jones, is the only way that cleanliness can be achieved.

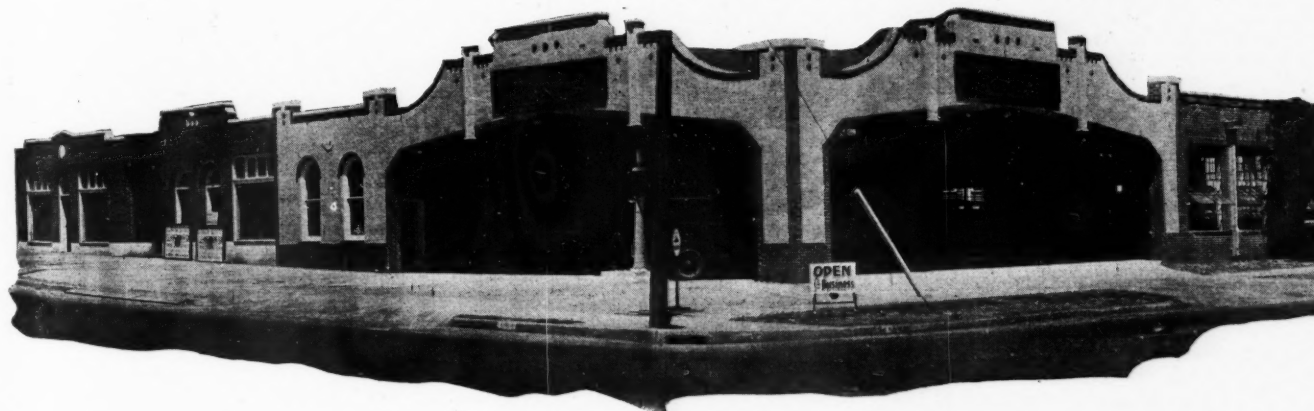
The station lends itself admirably to the job of keeping it clean. There are no angles or curves; no forgotten holes in which dirt may lurk. Everything is done in the full light of day and no spot of grease or oil is allowed to rest where it falls. It is cleaned up, regardless of how busy the place may be. Jones states that this feature particularly appeals to the woman who comes in with her own car to get it serviced. This fea-

ture alone is aiding in increasing the clientele of the station.

With regard to the second feature—promptness—here again the physical aspect of the station aids. It was built and equipped with particular attention to this phase of service. There is everything needed in the line of equipment to expedite the job and the station crew was selected for its ability to do a good job in a short time. Supervision of all repair work is directly up to Jones himself and no job is started or finished that he does not personally superintend and personally test.

Jones does not go in too strong on the smiling greeting. His idea is that the extreme politeness idea is being overplayed. Instead he prefers to limit himself to a polite request as to what the customer desires, believing that the work that he does will go farther toward making the customer a regular visitor than anything else. His thought is, rightly enough, that the service station is judged by the work it turns out and the time that it takes to turn out that work. By holding to this policy, regardless of the job to be done, he has achieved a reputation that is daily attracting more trade.

Just these two things—cleanliness and prompt service—are making the Jones service station well-known among motorists. But what could there be that would accomplish this in any better way?



The design of this service station is such as to facilitate the work of keeping it clean; the layout also lends itself admirably to handling several jobs at the same time

EXTRA

That's Langford's Way of Getting the Business



Fred Langford

EXTRA service which we give to our customers is responsible for at least fifty per cent of our business." That is the opinion of Fred Langford, who operates one of the fastest growing chains of filling stations in Massachusetts.

Just about two years ago Mr. Langford was employed in an executive capacity in the dyeing department of one of America's largest textile mills. He was dissatisfied and early in the fall of 1926 purchased a filling station on the north side of the city. The former owner was only too glad to sell, as he had never been able to make more than an indifferent success of it. Fred operated this station during the fall and winter of that year and showed a profit of 500 per cent over the previous owner's best six months. This was in addition to spending money to bring the station up to a standard of modern equipment. In the spring of 1927 he had under construction a new and entirely modern station on the south side of the city, placed there at the request of his customers who lived in that section. And now, on the anniversary of his second business year, we find him opening still another station in another section of south Lawrence. In passing it might be interesting to note that in choosing a site for his second station Langford took one that was surrounded by four filling stations within a radius of less than a quarter of a mile.

Langford's success is the more unusual because the entire city, as the result of poor textile business, is financially up against it. Let Langford tell his own story:

"I believe that our success, such as it is, is due in a large measure to the extra service we accord to car owners. Of course there are other things that enter into it, but at least 50 per cent of the business we do is turned our way because of this extra service our customers have been taught to expect to get at the Langford filling stations."

"What do you give in the line of service that others do not?"

"The service you get at a filling station depends entirely upon the proprietor's interpretation of the word 'service.' People go where they get the most for their money, and nine times out of ten that is why we get the business.

"When a car drives up to one of my stations, it is immediately taken in charge by two men. They have, to the best of their ability, looked the car over before it came to a standstill to see if they could anticipate the driver's wants. Perhaps one will smilingly suggest 'fill it up?' meaning the gas tank, or if he figures that it will hold about 10 gallons, he suggests that amount. The results as compared with the old 'how many?' are

SERVICE

BY NELSON RILEY

amazing. Five times out of six, the driver is sold a tank full of gas or 10 gallons, when if asked 'how many?' he perhaps would have ordered five.

"While one of the men is busy with the tank the other fellow is going through a little checking up system of his own. He looks at the water, takes a look at the oil and tests the tires. Then he will jump on the running board and if he has found everything all right, will probably chat with the driver while he wipes off his windshield.

"If there is anything that he can do, such as pumping up tires, changing water or making an adjustment in the carburetor, it is all done with no extra charge to the owner of the car. It takes very little time for the two men to give this systematic service to every car, but it is turning hundreds of dollars our way.

"In addition to the services which I have mentioned we give the cars of our customers a thorough checkup each week, and we never allow a customer to change a tire at one of our stations. This last service has become more and more appreciated with the increase of women drivers. When I started on this program of extra services, which while very little in themselves, would cost the owner much inconvenience if left undone, and some little money if he had it done at his garage, I was told by the trade and my competitors, that I would have to shave off that program if I intended staying in business, but we have been at it now for two years and are still growing fast. We do not intend in the future to miss any opportunity of grabbing a chance to add to that list of services as we see an opening. It is just as sensible to put time and money into extra service as it is to pay for advertising or buy modern equipment.

"Modern equipment is another big aid," said Langford, as he led the way to a side section of the station where he has an open-air "Oilology Department," as he



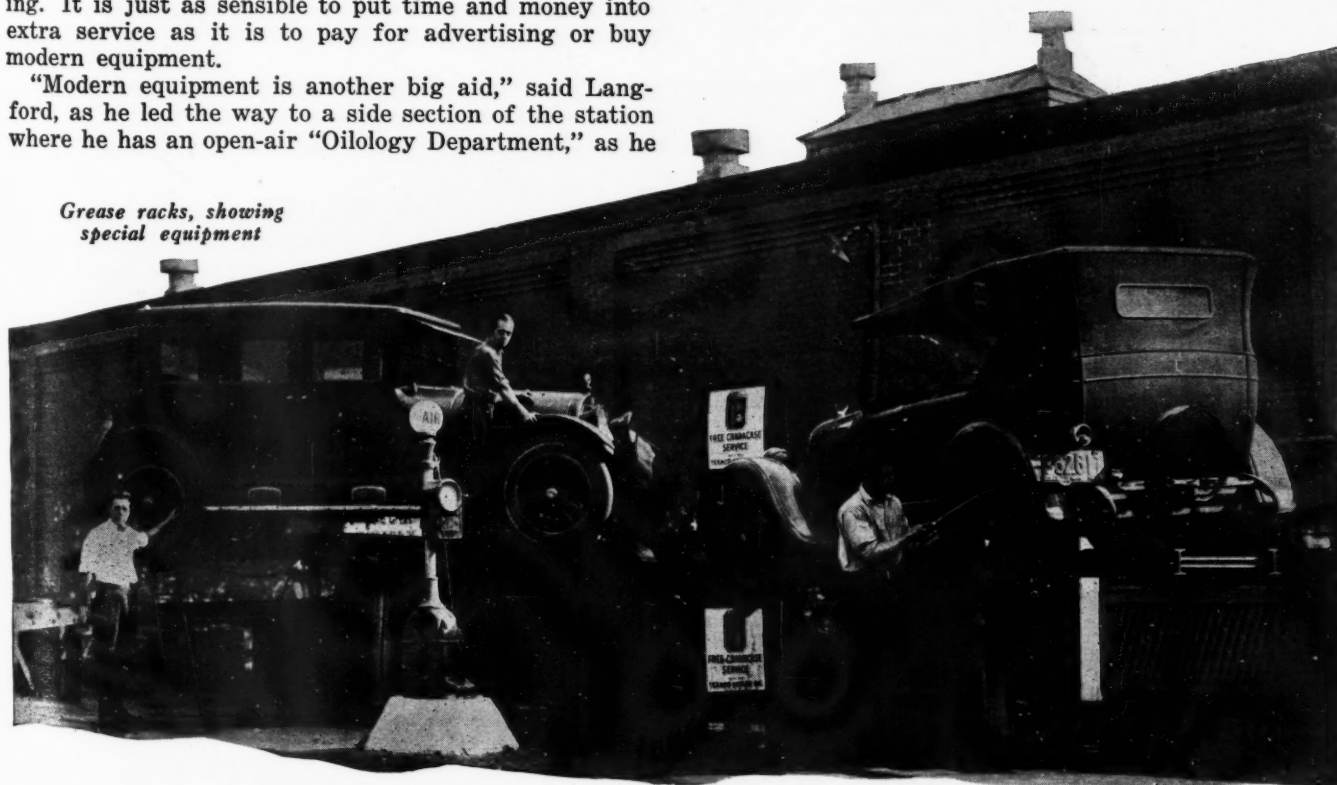
One of Langford's new service stations

calls it. On a stand in a glass case, so that it could be freely inspected, he has one of the latest grease guns and alongside two gigantic hydraulic hoists, each capable of lifting a five-ton truck.

"Here is where we do 25 per cent of our business and if it was not a modernly equipped department we should not have time to give the service I have outlined. You remember the days, not so very long ago either, when the greasing was done with a hand-gun which the operator worked while lying beneath the car. I have no fault to find with the hand-greasing method. On a few cars it can be done by that method just as efficiently and just about as quickly as with the Alemite, but you take a case where the working joints of the car are stiff or 'frozen' and it is next to impossible to do a real job with the hand gun. But all jobs look alike to the Alemite. It pays to use modern equipment. The motorist wants two things; first a good job, and second, speedy service.

"In all my advertising I use as a trademark my little man Petroleum. This cheerful little fellow is made from the word OIL. I use the O as his head and the IL for legs; he creates many a smile and our business shows that the motoring public likes him. While I run the usual amount of advertising during the year, I always try to have a fitting ad for each holiday."

Grease racks, showing special equipment



Trade, Generally, Shows Improvement

New Orleans

ONLY decided improvement in automotive situation here is in light car field. The sale of higher price cars is not up to par with last year, due to the continued business depression. The used car market is in bad condition, as there are too many antiquated cars still on the market. The demand for Ford cars is increasing as more cars get into use.

Los Angeles

SOUTHERN California sales for October are running below October, of last year, and about even with last month. The response is disappointing to most dealers. With but few exceptions, general business conditions are moderately good. Used cars are moving well and stocks are fairly low. The truck market continues slow.

Chicago

NEW car sales in the Chicago territory in October were approximately 10 per cent ahead of September this year and about 25 per cent greater than October, 1927. Stocks of new cars are low and in only one or two instances have new car introductions placed difficulties in the way of dealers. Used car stocks are abnormally low considering the season of the year.

Cincinnati

WITH both new and used car sales showing a daily increase of 22 and 34 per cent increase respectively, over September, dealers are confident that the month will finish close to the August peak. Good weather has resulted in a steady demand and the sales of used cars in most cases have been especially gratifying.

Seattle

RETAIL car sales in the Seattle territory for the month of October showed a gain of 12 per cent over last month, although sales were a little off as compared with October, 1927. Dealers report that car sales for 1928, so far, will be approximately ten per cent under sales for the corresponding period of 1927.

San Francisco

SALES of passenger cars and trucks in Northern California for October show approximately a 20 per cent increase over October of 1927. Though this is a slight decrease, nearly 10 per cent, from the figures of September, 1928, automobile dealers and expert observers believe that while the unusually heavy business of August, 1928, which was the greatest for 12 months, indicated the usual slump in the fall and early winter would be either slight or nonexistent.

Cleveland

NEW car sales for October were 2769, as compared with 4171 for the preceding month. These figures reflect a seasonal decline, but indicate better business conditions than those prevailing in October, 1927, when new car deliveries

were 1889. The movement in used cars was reported on a proportionate average with new cars.

Detroit

WHILE automobile sales in Michigan in October showed a decline for the volume enjoyed in September, early indications are that the business is ahead of the corresponding month a year ago, by a wide margin.

For the most part new car stocks are continuing at a low figure and dealers report that the used car market is holding up well though many are making special efforts to liquidate their stocks before the cold weather sets in.

Denver

BUSINESS for the first ten days in October, particularly in territory immediately adjacent to Denver gave the best promise in two years, but made a very serious slump thereafter, and October looks poorer than the same month for 1927, and much worse than September. The farm territory is in very bad shape due to very low prices in all lines, much below the cost of growing, and the car buying from the agricultural regions is almost nil. This is very pronounced in light trucks, which are usually very active about harvest times. Heavy trucks show the only bright spot in the territory. September is reported the best month in years in heavies, with October a little behind. Collections are fair, with a rapidly accumulating supply of used cars that is causing a certain amount of apprehension on the part of dealers.

Solve This One and You Get an Oriental Rug—Try to Do It

A handsome oriental rug awaits the Studebaker dealer who can produce a more distinguished list of owners than the one submitted by G. and A. Baker, Ltd., Constantinople, Studebaker - Erskine distributors for Turkey.

In the list submitted by Messrs. Baker are the names of the Ex-Shah of Persia, four princes and three princesses, the Turkish ministers of War, Marine, Interior, Finance, Exterior, three foreign embassies located at Constantinople, several Military Attaches, two foreign ambassadors, five governors, three prefects and four deputies from different provinces, and the president and vice-president of the Tribunal of Independence.

From last reports, the rug was still in Messrs. Baker's possession.

Dallas

CONTINUED heavy movement of the cotton crop at good prices keeps plenty money in circulation and as a result the automotive business in Texas and parts of Oklahoma, New Mexico and Arizona is showing improvement. Annual automobile shows at Dallas and other points stimulated trade to some extent.

St. Louis

SALES during October were excellent and stocks of new cars diminished in a most satisfactory way. Used car stocks are also lower than in October, 1927, and during last September, sales being exceptionally good.

Kansas City

AFTER getting off to a slow start, automobile sales in Kansas City in October picked up, and the total for the month will show a 10 to 18 per cent increase over October a year ago.

Stocks of new cars in the hands of dealers generally are low, no dealer being overstocked. Several complain of shortages to make immediate deliveries on several models.

Milwaukee

OCTOBER has shown a virtual continuance of the rapid pace of passenger car business in September, which showed an increase of more than 50 per cent in new car sales over the same month of 1927. Prospects for November business are deemed exceptionally favorable, in view of the fact that the general business situation is infinitely better than almost anyone would have expected six months ago.

Atlanta

NEW car sales during October were not as large as in the late summer, though most lines showed some gain over last year. The reason for the decline seems to be that money is a little tighter in this district than it has been.

The used car situation is unchanged. By far a majority of sales made represent trade-ins, and this is leaving dealers with sizeable stocks of used cars, which many continue to sell at very low prices.

Minneapolis

AFTER a slack week the automobile dealers and managers report increased sales. The country is doing better than the cities in deliveries. Some advance business for spring closing is still reported, which is a return to a custom some years ago. The used car situation calls for rather close trading by dealers who do not want to be swamped.

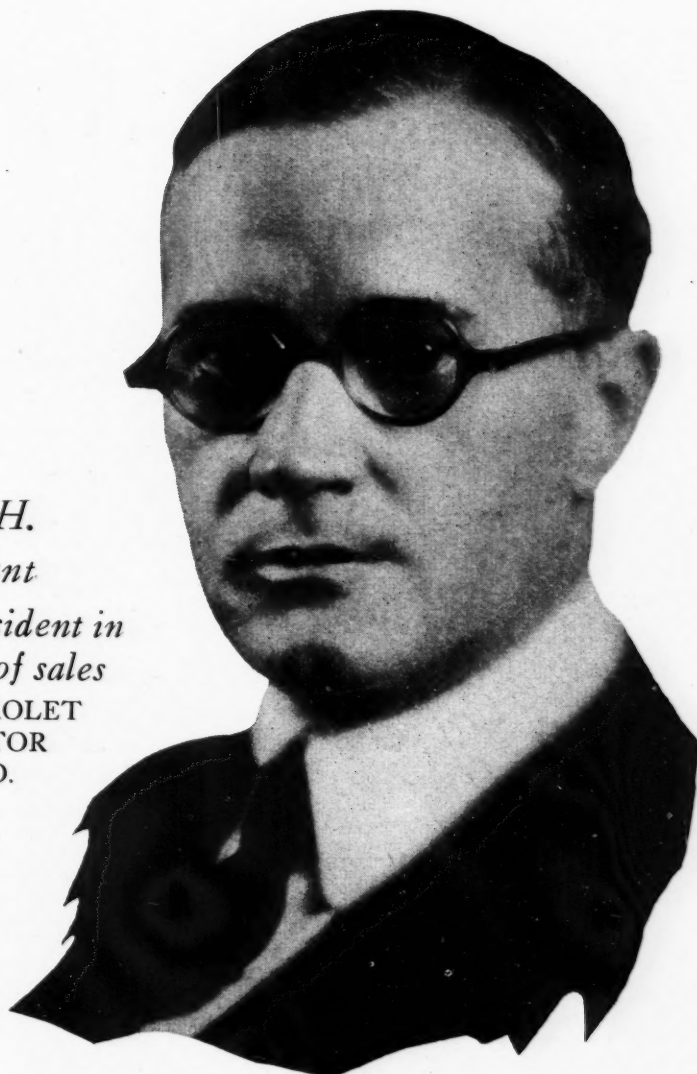
Boston

MOTOR car distributors in Boston found that sales were just fair during October. They had expected to do better because September showed a slump. But there was no quickening to the market, and it went along in about a similar groove to what it hit during the latter half of the preceding month.

By ATHEL F. DENHAM

Grant Discusses Major Problems Confronting Trade

R. H.
Grant
Vice-president in
charge of sales
CHEVROLET
MOTOR
CO.



IF anyone came into my office and asked me, 'What does the public know about engineering?' and I had to give a quick answer, I would say it doesn't know very much. But the public does know the *results* of engineering and what they say about our goods is what largely determines sales."

Having thus disposed of the topic of his address to the opening meeting of the Detroit section of the Society of Automotive Engineers, R. H. Grant, vice-president in charge sales of the Chevrolet Motor Co., proceeded to discuss some of the major problems confronting the automotive industry today. Beginning with the relation of the automobile and airplane industries to each other, Mr. Grant said, "The automobile is not threatened by the airplane or anything else in the way of a new transportation system. We must have land transportation of an individual character and this the automobile alone furnishes. Rather we should welcome air transportation. If we could add another type of transportation to those we already have it would merely mean more progress for the world."

Mr. Grant next discussed the question of dealer mortality. "Every year about show time," Mr. Grant said, "we hear a lot of talk of dealer mortality. To my mind the bulk of this comes from one or two things; either the man in question is a poor business man or he is working for a company which does not understand dealer problems. The man of proper character has more opportunity for a good return on his investment in the automobile industry than in any other industry."

Passing on to the used car problem we quote further from Mr. Grant's talk: "The greatest blessing we have in the automobile business is the used car market. If this market did not exist we could not sell half of the new cars being sold today." In connection with this question Mr. Grant referred to the ever-present desire for the latest style in new cars. He pointed out that the fulfillment of this desire would be considerably handicapped if used cars did not have a good resale value and a fertile market.

At various times it has been suggested that the factories should buy up all the used cars. Regarding this

question Mr. Grant said, "Nothing more detrimental could happen to the industry than factory handling of used cars or the consignment of new cars to dealers, as in such a case the dealer would no longer be independent and a great part of his initiative would be removed." Mr. Grant admitted that there had been losses due to the used car problem but stated that taking the country as a whole, profits from the larger sales of new cars more than offset such used car losses.

Dealing next with the application of engineering principles, such as the development of graphs and formulas in sales work, Mr. Grant pointed out how this development made possible the overcoming of many detrimental characteristics of automobile selling, including overstocking and "terrible cleanups" at the end of the season. Mr. Grant further pointed out how the application of such engineering principles from the factory sales angle has made possible, on the basis of "per car contract," the determination of such things as the total amount of space needed by the dealer, the amount of rent which he should pay and the same questions projected forward to cover the next five years of development. "We are even beginning to furnish monthly to dealers, figures of what their net profit ought to be on their gross sales." Mr. Grant showed that with a good dealer accounting system this makes possible quick determination of whether individual dealer profits can be increased or to what factors losses are attributable.

Dealing next with the interrelationship of factory
(Continued on page 32)

Selling Service With

*Portland Dealer's
Stressing Value
Boosts Trade*

BY MANDUS E.

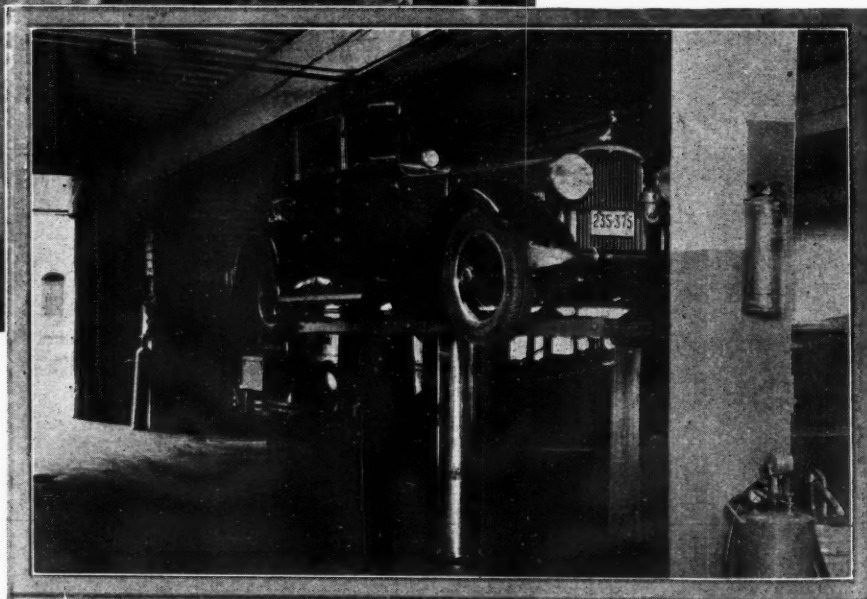


*The shop organ is effectively
used to overcome sales re-
sistance*

*A corner of the service
department*

BOTH the boss and the shop mechanic know the value of modern tools and equipment to produce better work and more of it, in the shortest possible time; but perhaps Mr. and Mrs. Motorist are also interested in this phase of the automobile dealer's business. They may not know the difference between a monkey wrench and a claw hammer, but it doesn't take them long to learn the difference between a haywire mechanic and one who works with power-driven tools and plenty of them. Seeing is believing, even though the gears and jim-cracks are all Greek to the layman.

But how to sell the idea of well-equipped maintenance service to the motorist is another matter. When attempted at all, it is generally confined to a few superlative adjectives in a multigraphed letter. Often the best equipped shop hopes for public recognition merely through quality work done quickly. But aggressive merchandising of maintenance service can be more positive, and more direct in its appeal. And still the technicali-



ties of the shop mechanic need not confuse the untrained mind.

S. V. W. Peters, vice-president and manager of the Portland Motor Car Co., Hudson-Essex dealer, Portland, Ore., uses a method that he finds exceedingly effective. He finds that the story he wants to get over is not easily told in the limits of a newspaper advertisement, so he uses a monthly "shop" organ, known as "Hudson-Essex Topics," an informal, chatty four-page leaflet 8 by 11 in.

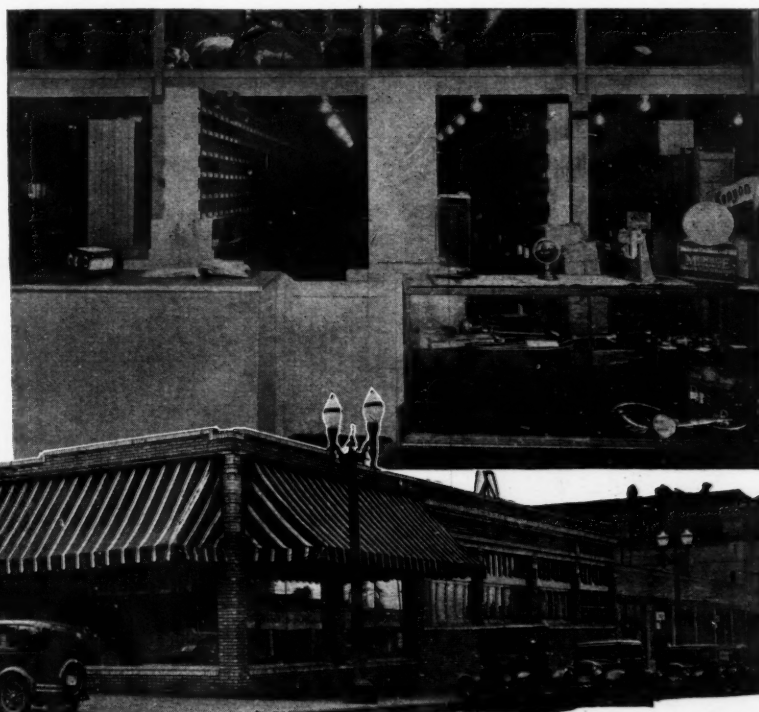
About 4000 of these are printed each month, but the

a "SHOP ORGAN"

*Monthly Bulletin,
of Proper Tools,
30 Per Cent*

BRIDSTON

*Cleanliness and neatness are
prime factors in the success of
the Portland Motor Co.*



cost to the firm is very small because associated firms in the automotive field help carry the expense by running small advertisements. For instance, a fender and radiator specialist tells his story in this bulletin, as also does a towing service operator, a painter, and so on. These advertisers in the Hudson-Essex Topics are firms that this automobile dealer can recommend.

This house organ is mailed regularly to all Hudson-Essex owners in the territory, and as the small advertisers also distribute to their customers the booklet reaches a wide field of car owners.

So much for the mechanics of the plan that has increased shop volume more than 30 per cent in a year. The subject matter is the all-important thing. Like a newspaper or a magazine, it must be interesting to dodge the waste basket. Just so much printer's ink isn't enough.

The subject matter may be said to consist of three types. Most important are photographs and descriptions of various pieces of shop equipment and methods used in this service shop. News and propaganda about the service department of the Portland Motor Car Co. and interesting bits of information about the operation and care of the automobile are also printed.

The part devoted to repairing and repair equipment is divided into two parts—why and how. The whys are particularly interesting to a majority of motorists. Why do valves need regrinding? Why must wheels be aligned? What about the dirt in the motor oil pan? When the job comes into the shop the mechanic is perhaps too busy to tell the customer all about these things and the latter is too busy to listen. But a little squib to be read at leisure is different. It "registers."

Further to stimulate a personal interest, one column is devoted to questions and answers, the questions being

sent in by customers. This one is typical: "I burnt out a globe in my tail light and had a garage replace it with a new one, but ever since that time I have had no dash light. Can you tell me what is the trouble without seeing the car? And the service superintendent, who also edits the "shop" organ was happy to write an answer.

But the third type of subject matter really gives the automobile dealer an opportunity to sell his particular service shop, for it tells how repairing is done. To this end a pictorial story is more eye-attracting and more understandable than cold type. For instance, a picture of a mechanic relieved of the need of crawling around the floor, by the use of an electric hoist, is eloquent and needs very little elaboration. The advantages are obvious—quicker and better work. Another depicts a diagram showing why cylinders need regrinding. A view of the cylinder regrinding equipment used by the company completes the picture. Among other things, the text tells of the advantage of grinding cylinders without removing the motor from the car chassis.

Another picture titled "Good Tools" shows a Perfection valve Reseater in operation. The descriptive matter in part reads, "In our shop what we term a regular valve grind consists of the following operations:

"Remove carbon from piston heads, combustion chamber and valves.

"Face valves, grind in valves to seats, adjust valve lifter tappets.

"Clean and adjust spark plugs.

"Clean out carburetor and vacuum tank screens.

"Adjust ignition timing.

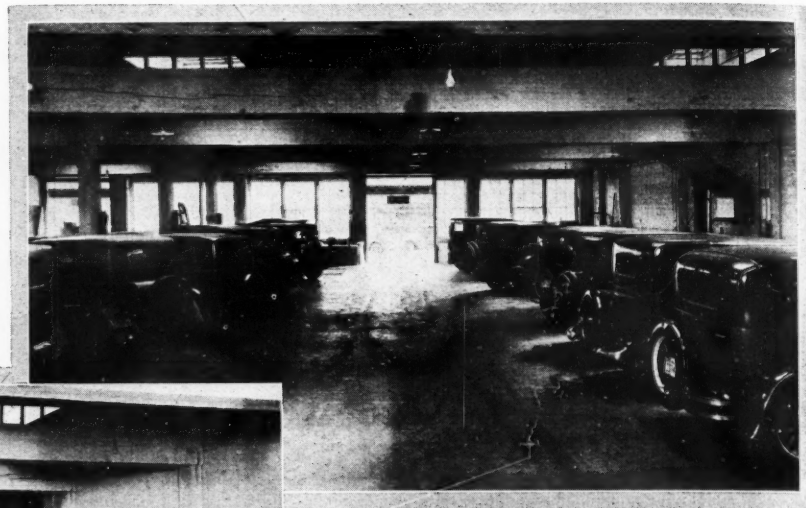
"Dress up and adjust timer contact points.

"Test out and tune up motor."

On another occasion the customers of the Portland

SELLING SERVICE WITH A "SHOP ORGAN"

A section of the storage floor. The garage has unusual features for caring for live and dead storage



Service floor showing entrance to shop office. Service salesmen are always on duty to care for customers' wants

Motor Car Co. were given a close-up view of what the flat-rate system of charges is all about, and how it works to the advantage of the customer. The bulletin told how the shop capacity was increased 28 per cent by the adoption of the flat-rate system, through speeding up the work. And this without sacrificing quality work. Anyone can understand the advantages of a system that prompts mechanics to carefully make out a list of needs before going to the parts room, instead of going first for a valve, then for a nut, then back again for a head gasket, etc. The motorist realizes that he eventually pays for time killed by the mechanic, and it needs no weighty arguments to sell a method that forestalls this practice.

Readers of the house organ are also told how the flat-rate system encourages short-cuts made possible through the inventiveness of the mechanic. When a mechanic invents a tool or a device that helps save time, the story goes into the bulletin. This recognition pleases the mechanic, and helps sell the service department to the public.

The entire booklet also helps bring the service man and the customer closer together. Many customers prefer to have the same man work on their cars. There is a distinct advantage all around in this practice. The mechanic learns the peculiarities of each of the cars of his "special" customers, through working with them over a period of time. Adjustments are thus the more easily made. He can tune the motors quicker, to say nothing of learning the little human foibles of the customer himself. Likewise he will take pride in working for the customer who has signaled him out from all the others. To a certain degree each service man has

his own clientele, and this practice is encouraged by the management.

For this reason the various articles in the "Hudson-Essex Topics" are signed by the writers, and sometimes their photographs are run. All members of the organization are encouraged to contribute articles, especially those who contact with the public. When Mr. Customer sees an article written by his favorite service man or mechanic, he reads it with interest, and becomes even better acquainted.

Outstanding feats are sometimes featured. For example, one squib told of one of the men who has specialized on pistons until he can "pull them" in 30 minutes. Another can overhaul three clutches in one day. All such points of interest make worthwhile reading for the motorist, and play a potent part in maintenance work merchandising.

The Portland Motor Car Co. operates its maintenance department on a strictly cash basis. It is made to work because there are no exceptions to the rule, and a carefully planned follow-up has been devised in the event that Mrs. Motorist calls for her car and forgets to bring her pocketbook. Of course, she gets the car, but the company also gets paid for its bill.

A cash business must be strictly so, Mr. Peters points out, for nothing brings more odium to a business than when it is learned that there are favored customers on its list. When the favored customer and the average customer meet at the cashier's window, which is bound to happen, the result is not so good. The average customer who is compelled to pay cash while he sees the favored customer excepted from the rule is likely to

(Continued on page 32)

They Call Him "BILL"

*That's One Reason He Makes Money
In a Small Garage*

BY R. E. HARDAWAY

WILLIAM A. GIBNEY, proprietor of the Central Garage at Bartow, Florida, makes money with a small garage and the "how" has been sought after by many with longer experience, more financial backing and more of everything that the average man would think necessary for success. But in the midst of it all Bill goes on being pleasant and makes money where others just get by and often fail. A strong statement, but a true one.

One reason for Bill's success is the many labor-saving tools he uses, the way he has his garage wired and arranged and a few other things common to the trade, but the greater things that make money for him cannot be purchased. The real secret of this success is based on friendship.

"I have no fear of the larger garages putting me out of business even if they do have thousands of dollars invested to my hundreds," says this genial car doctor, as he goes on quietly with his business of mending the broken bones and tissues of the various and sundry cars that eventually find their way into the Central Garage.

"There is a reason why the owners bring their work to this garage where they know it will be turned out as it should be. The main reason is not because I have been for many years in the business and think I know a whole lot about it. I do have a certain amount of knowledge, but as valuable as this knowledge is and as careful as my mechanics and I try to be in our work I know that fully 50 per cent of my best work comes because the owners are a bit fussy about their cars and want to talk to somebody that will listen to their car troubles as if they really amounted to something. And they do amount to something to these owners.

"As a general rule a man likes to feel that he knows a little something about the car into which he has put so much money, and although he may never turn a nut or grease a spring he desires to be able to diagnose the case and feel in his own mind that he knows exactly what is the matter. He can't do that when he takes his car into these big garages. The head mechanic makes out the work ticket, whisks the car upstairs to the mechanics much as a patient is wheeled into the operating room at a hospital. The job comes down on the elevator all done up brown, but like as not that owner has been sitting there for an hour or so twiddling his thumbs and wondering if the job is going to be done right and if he is getting all he is paying for.

"In our garage if a man wants to see his car torn down and rebuilt and ask a thousand questions during the process he is given that privilege and made to feel that we are interested in what he is saying. That's why they come back and from the viewpoint of the customer that is a good enough reason for anybody.

"In most cases I have so worked with and for my customers that they come into the garage for the most trifling jobs, hundreds of which they could well do themselves, but they know that unless it takes more than five minutes I will charge nothing for the service and usually while we are tightening a nut, putting in a cotter key or doing some trifle like that, the customer can be talked to in such a way that he will suggest that he must have that knock taken out of the engine or he believes the valves need grinding. Sometimes he has a few hours to spend in town and as the garage is near the business section he will leave the car and order some of these things done while he is gone. That is simply gravy as that customer had no idea of getting anything when he came in except a little free work and perhaps a pleasant 'Hello' or something like that.

"Another thing that we are aware of that brings us real money is the fact that all men are fond of hearing their car praised. If the engine is hitting on all four or all six when it leaves the garage and he has the word of the mechanic to the effect that he certainly has a splendid motor in that car, he feels real good all over and instead of grouching at the bill feels that he has only made another wise payment on an already good investment.

"Of course friendship can be carried too far in business and instead of doing good do harm, but real sincerity will mean hundreds of extra dollars for any small garage, and that's something those owners will drive miles to get.

"Bartow happens to be a county seat town and the seat of government of the richest county per capita in the state of Florida, a county that sells sixteen million dollars' worth of citrus products annually and sees seven millions come from the minerals in its soils.

(Continued on page 32)



Bill
Gibney

Answers to Legal Queries

By S. BOYER DAVIS

Lien on Repossessed Car

About a month ago a man brought a car into my shop for repairs. After the repairs were finished he took the car away and never has paid me for my work. A few days ago I started to look him up to collect my bill. I found that he had not paid his instalments and the dealer repossessed the car. Can you tell me whether I have any lien on the car? —John Bryant, Boise, Idaho.

THE Idaho statutes give a lien "on any article of personal property," on or to which any "person in lawful possession thereof" has rendered any service by labor, or skill employed for the protection thereof, improvement, safe keeping or carriage. But this lien is dependent upon continuous possession. That is, the article in question must be kept by the person seeking to have a lien and not returned to the owner or any other who may have a right to its possession. Since you allowed the purchaser to take the car, your lien was lost. You would still be all right, however, if it had been the true owner who ordered the repairs, for in another section of the Idaho statutes, a lien is given to anyone "who makes, alters or repairs any article of personal property at the request of the owner." In this section there is no provision as to the lien being dependent on possession. But it was not the owner who ordered the repairs in this case but one who had the machine in his control by reason of an agreement, which, if like the usual instalment agreement gave the car to the purchaser on a lease. We cannot, therefore, see how you have any lien.

Storage Lien

I operate a garage and repair shop and stored a Cadillac car for a man about two months ago. He brought the car in for storage again ten days ago and since he hadn't paid the first bill, I wouldn't let him take it out until I got the money. He claims I can't hold it for the bill because I let him take it out after the indebtedness was incurred and so I haven't any lien now even if I had one in the beginning. Please tell me what you think about it.—Joe Crossley, Pontiac, Mich.

SECTION 4833 of the Michigan Compiled Laws of 1915 provides "That every garage repairer who shall in pursuance of any contract expressed or implied, written or unwritten, furnish any labor, material or supplies shall have a lien upon any automobile or

other motor propelled vehicles stored, maintained, supplied or repaired by him for the proper charges due for the storage, maintenance, keeping and repair thereof and for gasoline, electric current and for other accessories and supplies furnished or expenses bestowed or labor performed thereon at the request or with the consent of the registered owner of the license plates of said motor vehicle, and such garage keeper may detain such automobile or other motor propelled vehicle at any time it may be in his possession within ninety days after performing the last labor or furnishing the last supplies for which such lien is claimed."

Under this statute you have a clear right to a lien upon the car if ninety days had not elapsed between the time you last furnished gasoline and the time the car was returned to you for further storage. This would seem to be true of simple storage also and you should have no difficulty in collecting your bill.

File Lien Promptly

I would like to have some information upon the following point: "A" brings an automobile, of which he claims to be the owner, to "B," who runs a repair shop, and orders some repair work on the car. "B" does the work but "A" does not come back to get the car or pay the bill and before he does "C" comes in and claims "A" has sold him the car and wants to take it away. What I want to know is, can "B" hold the car for the repair bill?—Ralph Curtis, Indianapolis, Ind.

THE Indiana statute gives a lien to every person, firm or corporation, or others engaged in storing or furnishing supplies for, or repairing an automobile or motor truck or motorcycles, or every person, firm or corporation or others maintaining an automobile garage, upon such automobiles or motor trucks or motor-bicycles stored, for storage charges or for charges for keeping any such automobile or motor truck or motor-bicycle or for furnishing supplies for or repairs done on, etc.

You thus clearly have a lien on this machine but the statutes also provide that such a lien to prevail over other claims must be filed prior to the filing of the other claim. If you filed your lien as required in the county in which the car then was and unless the sale took place prior to the filing of your lien, your lien would be good and you can hold the car.

Lien for Repairs

A man brought me a car to repair which I afterwards found out he did not own but only had it on partial payments. He has not paid me for my work and now the concern which sold him the machine wants to repossess it, as he has not kept his payments up, and take it away from me without paying me either.—James Smith, Richmond, Va.

THE Virginia code provides that "Every mechanic, who shall alter or repair any article of personal property at the request of the owner of such property, shall have a lien thereon for his just and reasonable charges therefor and may retain possession of such property until such charges are paid.

"And every mechanic, who shall make necessary alterations or repairs on any article of personal property which from its character requires the making of ordinary repairs thereto as a reasonable incident to its reasonable and customary use, at the request of any person legally in possession thereof under a reservation of title contract, chattel mortgage, deed of trust, or other instrument securing money, the person so in possession having authority to use said property, shall have a lien thereon for his just and reasonable charges therefor to the extent of \$25.00 and may retain possession of such property until such charges are paid. In any action to enforce the lien hereby given all persons having an interest in the property sought to be subjected shall be made parties defendant."

From the above it would seem clear that had you been dealing with the real owner you would have had a lien on the car and could have held it until your bill was paid. The custom is, however, in purchases on installments that the seller reserves the title and therefore we do not believe that your lien for repair work would hold for more than \$25.00 as provided in the statute. However it is also provided that "every keeper of a ***** garage and every person ***** keeping any *** vehicles **** shall have a lien upon such *** vehicles **** for the amount which may be due him for the keeping, supporting and care thereof until such amount is paid."

Under this section of the statute you would have the right to hold the car for the storage charges, under your lien, apparently even against the real owner as far as we are able to tell from the information contained in your letter.

Cars of EIGHT Nations at BRITISH Show

*26 American Makes Exhibited. Many New Low-
Priced Sixes Shown by English Manufacturers.*

*Miniature Four-Passenger Models
Gaining in Popularity*

By M. W. Bourdon

A LARGE number of new sixes and eights offer indisputable evidence that European Makers are tending to follow the American manufacturer in the choice of power-plants for the better grade of automobiles. This fact and the very noticeable prevalence of the popular increasingly fabric body work, together with the large number of small capacity cars, were some features of the twenty-second Olympia Automobile Show which opened in London, Oct. 11 and closed Oct. 20.

In appearance many makes of sedans have been vastly improved over last year's offerings by higher radiators, lower chassis, sloping windshields, domed roofs and curved rear quarters. The sloping windshield is often accompanied by a reverse sloping of the rear panel, improving the aesthetic balance. Much brighter fabric colorings are in vogue and purchasers are offered a wider choice than ever before. Cellulose finishes appear more subdued, though duotone effects are frequently optional.

The show fully maintains its international character, the makers exhibited comprising 39 British, 26 American, 22 French, seven Italian, four Belgian, two Austrian, two German and one Spanish. It is obvious that

a greater variety of models and finishes are available this year than ever, and this is also noticeable with regard to the interior appointments of the cars.

A total of 579 cars are shown, including 163 by body-builders. Thirty makers show bare chassis. Parts accessories and tires occupy 362 exhibits.



One of the highest grade new cars at the British show is this Lanchester Eight with a fabric sedan body. It is classed as a speed model and sells for \$8,600

American makes exhibited are Auburn, Buick, Cadillac, Chandler, Chevrolet, Chrysler, Dodge, Durant, Erskine, Essex, Falcon-Knight, Franklin, Graham-Paige, Hudson, Hupmobile, LaSalle, Marmion, Moon, Nash, Overland, Packard, Reo, Stearns, Stutz and Willys-Knight.

EXHIBITORS at Olympia are keenly discussing the proposal not to hold the show next year. The Society of Motor Manufacturers is canvassing its members for opinions before deciding the matter.

Some favor holding the show every other year and others are for discontinuing it entirely. Very few want it continued as an annual event.

The general feeling among makers and dealers is that the show intensifies seasonal buying, prospects holding off after midsummer until the show, awaiting new models or anticipating price reductions. It is definitely asserted that the show does not increase total annual sales.

It is explained that European buyers do not so follow keenly styles as do the car purchasers of this country and also, that the average car owner in European countries prefers to keep his old car longer.

debaker, Stutz and Willys-Knight.

The show indicates an increasing demand for fabric bodies of all types, especially sedans. Nearly every European maker is showing examples of fabric bodywork and several American cars are exhibited with British bodies of this type. At the same time a large proportion of buyers still seem to prefer composite or metal body construction and a more or less general reaction in that direction is not improbable.

Sedans with sliding or folding roofs — "sunshine" models—are very numerous.

CARS OF 8 NATIONS AT BRITISH SHOW

Many of the new designs have interior operation, so that it is a simple matter to open or close the roof. Makers who are offering this type of body as optional found during the past year that it was preferred by 80 per cent of the buyers.

Six-window fabric sedans have displaced numerous four-window designs, or are optional at the same price. A prevalent new body style is a close-coupled sedan with two doors on each side extending from windshield to rear corner without the use of a central pillar. This is accomplished by fitting a very wide front door which closes on the rear one. Coupled spring bolts at top and bottom secure the latter.

Low-priced British and European sixes have invaded the field held exclusively hitherto by the small four. Many of these sixes are under 120 cu. in. piston displacement and several are under 90 cu. in.

The new eights are mainly expensive models, one notable exception being the 160 cu. in. Hillman "20," which is designed to compete with American products.

18 New British Models

Over 40 new models of all nationalities are shown, including 18 British. Four of the latter are fours, nine are sixes and the remaining five are eights. The largest new four is a 90 cu. in. supercharged, front drive Alvis. The sixes include an 85 cu. in. side-valve Armstrong-Siddeley which shares with Renault the distinction of being the smallest and lowest-priced European six. Standard is showing a new 116 cu. in. side-valve, four-speed six with a sliding roof fabric sedan body priced at \$1,596. The new Riley is an overhead valve six of 100 cu. in. displacement and has four speeds. The fabric sedan sells for \$2,390. The metal sedan has a luggage locker concealed within the normal outline, a hinged rear panel providing access.

Wolseley, now a part of the Morris organization, introduces new overhead camshaft six and eight-cylinder designs which are larger than the former models. The eight has undergone the sharpest price reduction of the show, being cut approximately 25 per cent. Prices now are: 120 cu. in. six, \$1,815; 160 cu. in. six, \$2,060; 170

cu. in. eight, \$2,665. Lanchester has an overhead camshaft, 270 cu. in. supergrade speed model eight to supplement its sixes, which are continued with few changes. The eight sells for \$8,600.

Single Sleeve-Valve Aster

Other new British models include an Aster single sleeve-valve 192 cu. in. eight; a Beverley overhead-valve 166 cu. in. eight with Warner gearset; a Crossley 116 cu. in. overhead-valve, four-speed six; Humber 128 cu. in. overhead-inlet four-speed six. Seven of the 18 new British models have magneto ignition, nine battery, and two dual. Fourteen have four speeds. Six have overhead camshafts, eight use pushrods and three are of the side-valve type.

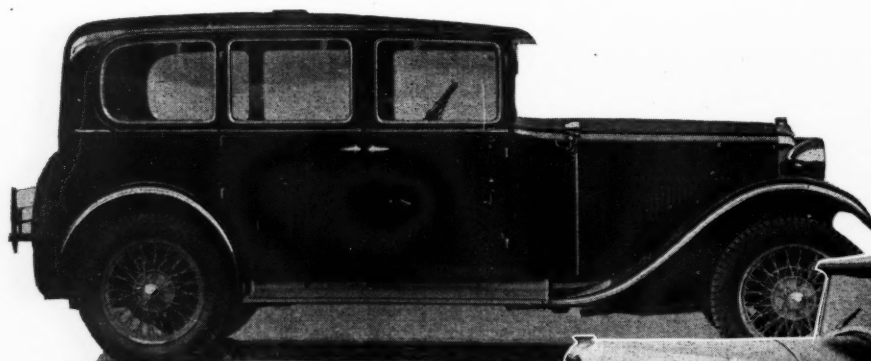
Prices on existing models generally show small reductions, none extensive except Wolseley, though Austin reductions run to 20 per cent and new fabric sedans in this line are 10 to 15 per cent cheaper than the continued metal types. English prices of French and Italian cars are slightly lower.

New models introduced at Paris and shown at Olympia include the Citroen Six, priced at \$1,320 for the all-metal sedan with chromium plating.

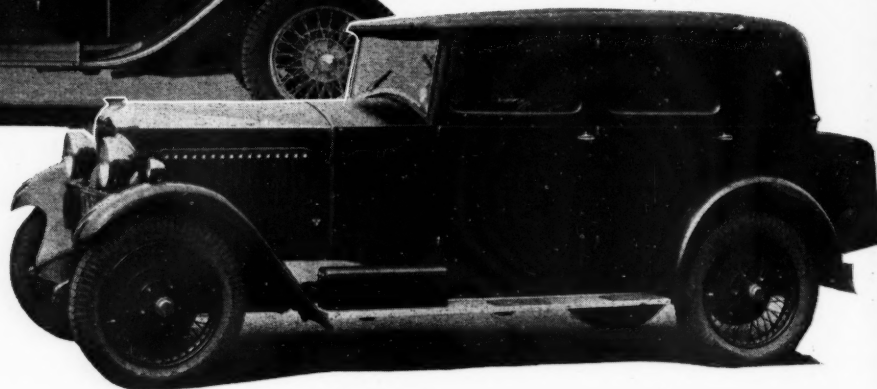
Mercedes shows a new 282 cu. in. eight with side valves. Chassis is priced at \$4,090.

Fabric bodies of nearly all makes are cheaper now than metal. Constructional methods still vary from fabric pasted on metal panels to genuine Weymann practice, though the latter has secured fresh adherents, some makers having dropped their own semi-flexible designs originally used. Fabric is being more extensively used for limousines, coupes, landaulets and open models. Weymann shows fabric bodies in glossy finishes almost indistinguishable from lacquered metal panels. Several makers are introducing fabric-bodied four passenger speed models.

Pneumatic upholstery and wire wheels show marked increases. Safety glass is standard on several makes, but more often at extra cost. Servo braking has not increased, the trend apparently being more toward self-wrapping shoes. Brake layouts have been noticeably



Above—New Hillman straight-eight sedan, designed to compete with American productions overseas and also to meet British requirements. At \$2,350, it is the lowest-priced British eight



Below—New type bodywork for Vauxhall Six, known as the Velox sedan. It is of a type of which the rear quarters, back panel and sides of the cowl are of fabric-covered aluminum, the remainder and the doors having a flexible fabric-covered framing. The luggage trunk is an optional feature

CARS OF 8 NATIONS AT BRITISH SHOW

simplified, with compensation almost defunct. Cam steering has increased, but ratios are no lower. Only one maker, Singer, has standardized on chromium plating, but others soon will follow suit. Meanwhile a number of makes may be had with chromium plating at extra cost.

Principal British demand is now concentrated on three types of car. First comes the miniature four-passenger open car or sedan at about \$500 to \$675; second, the 90 cu. in. fours at \$725 to \$1,200, and third, the 90 to 120 cu. in. sixes at \$1,450 to \$2,180. Exceptions are the continued popularity of the Morris and Hillman 14-hp. models. The Hillman four-cylinder sedan, selling for \$1,570, doubled its output for the third successive year.

The new eight-cylinder Hillman, from the American standpoint, is of prime importance, for it represents a determined attempt to compete with American productions in the world's market in the combined attributes of price, performance, appearance and comfort. As regards performance, it is claimed to have a maximum speed in excess of 70 m.p.h., and to accelerate from 10 to 30 m.p.h. in 8 seconds on top gear and from rest to 50 m.p.h. in 23 seconds, using the four gear ratios in succession. It is the first British eight to be offered below £500.

158 Cu. In. Engine

The engine has a bore and stroke of 63 x 105 mm. (2600 cc. or approximately 158 cu. in.) and with a compression of 5 to 1 it develops 58 b.hp. at 3000 r.p.m. The unit cylinder block and crankcase is suspended at four points from the main frame with semi-flexible anchorages and supports the crankshaft in five bearings, the main journals being only one millimetre less than the cylinder bore, viz., 62 millimetres in diameter, which obviously implies a very stiff crankshaft, torsional vibration being further counteracted by a damper at the front end. Overhead pushrod-operated valves are used, set within the flat-topped combustion chamber, which has parallel sides and forms a continuation of the cylinder bore; the spark plugs are also overhead.

Battery ignition is used, the distributor being driven off the dynamo, the latter in turn being driven by a duplex roller chain, which also serves for the camshaft with automatic adjustment by a spring idler. Lubrication is forced to all points, including the overhead valve

gear, the pump being set at an angle with its casing outside the crankcase and driven direct by helical gearing from the five-bearing camshaft. The oil pressure is 40 lb. per sq. in. Water circulation is by a belt-driven pump from an extension of the fanshaft, the belt being adjusted by means of a screwed flange on the driven pulley.

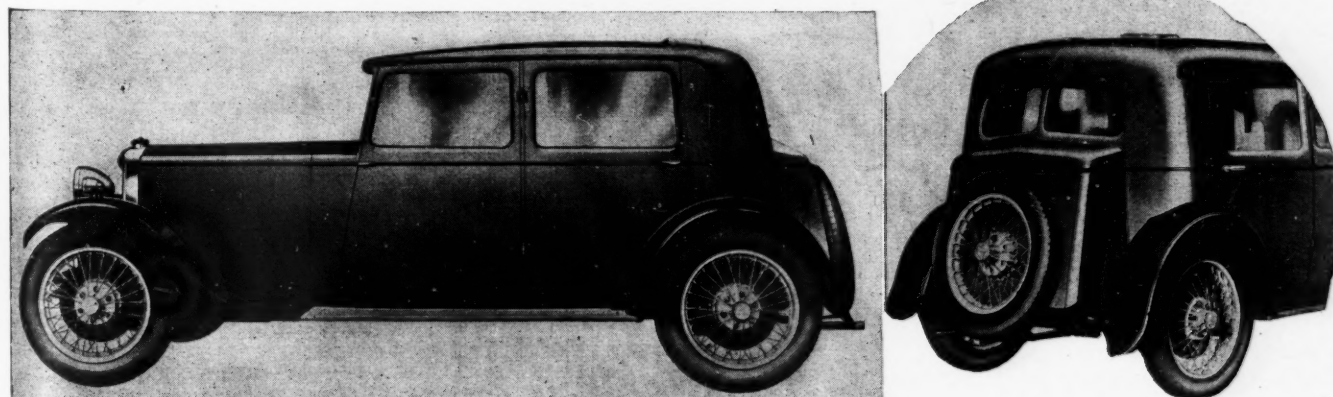
Two Downtakes in Manifold

A single carburetor delivers to a four-branch rectangular section induction manifold of cast aluminum, which has central contact with the flanged exhaust manifold, the latter being notable in having two downtakes, one at each end. The flywheel casing and four-speed-gearset with right-hand control form a unit with the engine and like the open propeller shaft and rear axle, are almost identical with these units of the four-cylinder model. The body space is identical with the latter, enabling the same range of bodies to be offered on a wheelbase which is only 6½ in. longer, viz., 120½ in.; 6½ in., therefore represents the sole addition to the chassis length due to the use of eight cylinders in place of four, in spite of which there is a water space between each cylinder in the block casting. The gear ratios are: Top direct 5 to 1; third 7.75; second 12.8; first 19.9; reverse 16 to 1.

Springs are semi-elliptics all around with shock absorbers and gaiters; detachable wire wheels are standard equipment with 29 by 5.50 Dunlop tires. The car shown at Olympia is a fixed head coupe with two exceptionally wide doors and fold-up seats behind the main seat.

The new six-cylinder Armstrong Siddeley is a type of car which, with the exception of the 12 hp. Renault, represents a new type on the British market, for with the exception mentioned it is the smallest six and is offered at a lower price than any other six-cylinder car, viz., £250 with a four-passenger body with folding top and detachable side screens.

A single plate clutch is used, while the three-speed gearset follows Armstrong Siddeley practice in being mounted as a unit with the front end of the propeller shaft casing; the four-wheel brakes have direct operation, disk wheels with 27 by 4.4 in. Dunlop tires are fitted; the wheelbase is 105 in.; the track 48 in. and the overall length 156 in. The springing is by half-elliptic springs.



Fabric sedan of new Riley Six. Rear view shows integral luggage locker and distinctive rear window treatment

GRANT DISCUSSES MAJOR TRADE PROBLEMS

(Continued from page 23)

sales and engineering departments, Mr. Grant emphasized the need for a closer understanding on both sides of each other's problems. "A strong sales department," stated Mr. Grant, "for a short time can overcome some very bad engineering and a good engineering department for some time can also offset some pretty bad selling, but not over a long period."

Deploing the too evident readiness of the automotive industry to jump with any "trend" of public opinion, Mr. Grant said that each factory department should have plans laid two years ahead or at the very least one year ahead, and nothing but an upheaval in the industry should make them swerve from their aim. A definite policy of this type would make it possible for each department concerned to do better development work without having to worry about possible future problems. Still on the same subject Mr. Grant continued: "I don't believe the putting on or leaving off of any gadget is going to make much difference in sales if everything else is what it ought to be. This goes also for color. As long as any color schemes are not directly offensive to the eye we should not blame a poor sales year on the fact that the coach was colored in a too light shade of magenta or to say, 'What a wonderful sales year we would have had if our 4-door sedan had been finished in Alice Blue.' The sales department should be in a position of being able to say, 'Don't put that thing on, we don't need it at this stage of the

game.' " This, he said, would greatly simplify matters.

In order further to point out to his engineering audience the similarity which underlies certain factors of both selling and engineering, Mr. Grant continued: "In another respect we find in engineering work the same situation as in sales. The young man coming into the business is a big problem. We find plenty of them that don't know their own jobs but do know all about saving the industry." Pointing out the practical impossibility of any one man to be able to determine what 51 per cent of 110,000,000 people want in the way of an automobile, Mr. Grant said that it all came down to guesswork in the end. "The smartest man, to my mind," said Mr. Grant, "is he that can make the fewest number of bulls in a given number of guesses. No man knows public trend."

In concluding his address Mr. Grant gave his opinion of the setup of the ideal engineering department. Over the long pull, the engineering department which can turn out a good dependable car year after year, a little bit better every year, rather than something flashy, intended to captivate the entire industry, is the one which will be most successful.

Present at the speaker's table were an unusually large number of sales managers. Included in the list were: J. W. Frazer, Chrysler; Eddie Rickenbacker, Cadillac; John R. Lee, Dodge Brothers; F. R. Valpey, Graham-Paige, and H. M. Peters, Packard.

Selling Service With a House Organ

(Continued from page 26)

become somebody else's customer before very long.

The house organ is also used to help sustain the cash policy. At frequent intervals the "editor" points out that the saving in bookkeeping expense is passed on to the customers.

But, as already mentioned, the most rigid cash policy cannot always be enforced to the letter. Hence, unpaid bills are checked twice a week, and the clerk in charge must give a satisfactory explanation for every invoice that was not paid on delivery. If the bill is not paid in three days, the customer is called by telephone, which usually brings in a check. In 10 days the service floor

man who released the car before the job was paid for must make a personal call on the customer. In 45 days the firm takes a labor lien on the car, and if the deal hangs fire for 60 days the shop foreman must make good out of his own pocket.

With the responsibility thus resting on the men in the maintenance department, there is practically no loss from bad debts.

The plant of the Portland Motor Car Co. occupies an entire city block, and this wide expanse of floor space on one level makes it possible to put through 75 repair jobs in one day.

They Call Him "Bill"

(Continued from page 27)

This, however, only makes the competition all the keener in the garage business, as in all else, but I go after the courthouse crowd. Here I find the highly paid people who draw good salaries 12 months in the year. They can pay to have work done on their cars all the year around and not only when the fruit season is on.

"By far the greatest part of this business comes from personal solicitation, and extreme care is taken with any order coming from a department of this

county government. I have got one car in a department and by so working on it and suggesting a little cooperation to the owner, I have seen every car in that department come here for repairs.

"It pays to be friendly and to know your business at the same time; if a bad job is turned out no amount of palaver around will get that job a second time. Only satisfactory work will do that and it is my ambition to turn out such work that before many years half the county will know my name is 'BILL'."

N. S. P. A. Show and Convention

(Continued from page 17)

the list of show exhibitors will be found on this and the following page.

The following is a list of the officers and directors of the National Standard Parts Association:

President, L. T. White Raleigh, N. C.
Motor Bearings & Parts Co.

Vice-President, W. E. McIlroy New York, N. Y.
S. K. F. Industries, Inc.

Executive Vice-President, E. P. Chalfant

Secretary, R. Macfee

Directors

E. P. Rotzell (1928) Philadelphia, Pa.
E. P. Rotzell Co.

M. H. Rykoski (1928) New Orleans, La.
M. H. Rykoski

T. S. Grape (1929) Washington, D. C.
Bearings Sales Co.

T. L. McGonagle (1929) Denver, Colo.
Denver Gear & Parts Co.

E. A. Henderson (1930) Sacramento, Cal.
Henderson Bros.

R. A. Kiken (1930) Chicago, Ill.
Motive Parts Co. of America, Inc.

F. J. Glennon (1928) Cincinnati, Ohio
Aluminum Industries, Inc.

W. McPherson Smith (1928) Howell, Mich.
Spencer-Smith Machine Co.

O. X. Buehler (1929) Indianapolis, Ind.
Indianapolis Tool & Mfg. Co.

C. M. Burgess (1929) Geneva, Ill.
Burgess-Norton Mfg. Co.

F. S. Durham (1930) Allentown, Pa.
Bonney Forge & Tool Works

J. C. Gay (1930) Los Angeles, Cal.
Security Mfg. Co.

Exhibitors List N. S. P. A. Show

Exhibitor	Products	Booth Number
Accuralite Co.	Pistons	177
Accurate Gear Co.	Gears	120-121
A-C Spark Plug Co.	Spark Plugs, O. I. Fitters	269-270
Accurate Parts Mfg. Co.	Clutch Parts, Bolts, Nuts, Washers, Springs, Piston Rings, Expanders	130-131
Advance Packing & Supply Co.	Tenax, Tenpac, Pasco, Advance, Plastic Pump Packing, Gaskets	190
Albustos Corp.	Brake Lining and Textiles	153
Almetal Universal Joint Co.	Joints and Parts	273-274
Aluminum Industries, Inc.	Pistons	86-87
Alvord-Polk Tool Co.	Small Tools	214
American Hammered Piston Ring	Piston Rings, Valve Grinding Compound and Valve Testers	109-110
Apco-Mossberg Corp.	Wrenches	85
Armstrong Cork Co.	Gaskets and Washers	64
Arrow Head Steel Products	Pistons, Piston Pins, Axle and Drive Shafts	154
Automotive Maintenance Machinery Co.	Tools	9-10
Automotive Mfg. Co.	Radiator Caps, Cables, Brush Holders	261
Automotive Specialty Corp.	Motor and Generator Brushes and Cable	242
Belden Mfg. Co.	Wire, Cordlites, Ignition Sets, Battery Cables	217
Black & Decker Mfg. Co.	Tools and Valve Grinding Equipment, Carbon Cleaning Equipment	205-206-207-208-209
Bonney Forge & Tool Works	Wrenches, Tools	114-115-116
Brandt-Warner Mfg. Co.	Axle and Drive Shafts	152
Brown-Lipe Gear Co.	Clutch Plates, etc.	210
Buckeye Brass & Mfg. Co.	Bearings, Bushings, Bronze Bars	60
Burd High Compression Ring Co.	Piston Pins, Machine and Heaters	204
Burgess-Norton Mfg. Co.	Pins, Bushings	57-58
Cleveland Worm & Gear Co.	Worms and Gears	139
Cleveland Piston & Mfg. Co.	Pistons, Pins, Rings, Machines, Heaters	203
Clayton & Lambert	Blow Torches, Fire Pots, Portable Stores	99
Chicago Rivet & Machine Co.	Rivets, Brake Relining Machinery	258-259
Champion Pneumatic Mfg. Co.	Air Compressors, Service Tower	211-212
Champion Spark Plug Co.	Spark Plugs	225
Chadwick & Trefethen	Reamers	168
Crane Packing Co.	Metallic Packing	18
Dall Motor Parts Co.	Pins, Pistons, Equipment, Keystone Tools	54-56 inc.

Exhibitor	Products	Booth Number
Dalton & Balch, Inc.	Gears and Chains, etc.	47-48
Deluxe Products, Inc.	Cast Iron Pistons	245
Detroit Steel Products Co.	Automobile Chassis Springs	240
Diamond Motor Parts Co.	Replacement Parts	33-37 inc. 49-50
Duckworth Chain & Mfg. Co.	Silent Timing Chains	163
Echlin & Echlin, Inc.	W. P. Shafts and Imp., Ring Gears, Oil Pump Gears, Igniter Gears	164-165
Elgin Machine Works	Piston Pins	13
Evans Flexible Reamer Corp.	Flexible Reamers, Brass Brake Screws	113
Fafnir Bearing Co.	Ball Bearings, Ball Bearing Spring Shackles	65
Federal-Mogul Corp.	Bearings and Bushings, Cored and Solid Bars, Babbitt Metals	33-39
Felt Products Mfg. Co.	Gaskets and Gasket Materials	11-12
Fitzgerald Mfg. Co.	Gaskets, Push Buttons, Battery Connections, Terminals, Ignition Switch, Wiring Outfits	51-52
Fleming Machine Co.	Small Tools	192
W. D. Foreman	Axle, Drive and Pin Shafts, Piston Pins	44-46 inc.
Fostoria Pressed Steel Co.	Replacement Fenders	126
Fostoria Screw Co.	Bolts, Bushings and Equipment and Tools	127-129 inc.
Franklin Air Compression Co.	Air Compressors	25
H. M. Fredericks Co.	Armature Rewinders	276
G-H Mfg. Co.	Tension Rings, Valve Brake, Piston Springs	215-216
L. H. Gilmer Co.	Fan Belts, Transmission Lining	191
Greenfield Tap & Die Corp.	Taps, Dies, Screw Plates, Twist Drills, Reamers, Pipe-Threading Tools, Pipe Vises, Wrenches, Cutters and Machine Tools	172
Guaranteed Parts Co.	Ignition Service Parts, Gears, Brushes and Coils	119-132
Hall Mfg. Co.	Equipment, Tools	84
Hastings Mfg. Co.	Piston Rings	117-118
Heiz & Heiz Co.	Cotter Pins, Lock Washers, etc.	161
Hilab Products Co.	Fan Belts, Radiator Hose, Universal Joints, Disks, Leather, Rubber, Auto Accessories, Specialties	185
Holfast Rubber Co.	Fan Belts, Hose	275
W. B. Huber Co.	Pistons	183
Husky Wrench Co.	Socket Wrenches and Hammers	194-195
Hut to Engineering Co.	Grinders and Grinding Machines	140-141
Indianapolis Tool & Mfg. Co.	Gears	136
Inserted Valve Seat & Tool Co.	Valve Tools	100
Irving Engineering Co.	Heaters, Shutters	187
Johns-Manville, Inc.	Brake Lining, Clutch Facings, Auto Tape, Auto Packings	193
Johnson Bronze Co.	Bronze Bushings, Brgs. and Parts	101

Exhibitor	Products	Booth Number	Exhibitor	Products	Booth Number
K-D Mfg. Co.	Tools and Washers	176	S. K. F. Industries, Inc.	Ball Bearings	6-7
Keasbey & Mattison Co.	Brake Lining and Clutch Facings	76	Smalley Accessories Corp.	Inner Rings	21
Kellogg Mfg. Co.	Complete Line of Shop Equipment	143-145	South Bend Lathe Works	Lathes	229-230
Keystone Reamer & Tool Co.	Piston Pins, Equipment and Tools	59	Spencer Smith Machine Co.	Pistons, Pins, Set Screws	107, 108
King Quality Mfg. Co.	Pins, Bolts, Bearings, Pistons, Rings and Bushings	102-105 inc.	Spiro Mfg. Co.	Running Boards, Moldings, Mattings, and Floor Mats	125
Kraeuter & Co.	Pliers, Chisels, Wrenches, Machinists Tools, Automobile Tools, Drop Forgings	268	Splitdorf Elec. Tool Co.	Spark Plugs, Wrenches, Tools, Ferodo Asbestos Brake Lining	202
Lake Erie Metal Products	Axles, Worms, Worm Gears, Brake Drums	122-123	Star Products & Machine Co.	Valve Lifters and Grinders, Guides, Adjusting Screws, Valve Springs	88
Laminated Shim Co.	Shims, Vernay Shutters and Vernay Heaters	142	Sterling Products Corp.	Tank Caps, Starting Cranks	17
Link-Belt Co.	Timing Chains	226-227	Swartz Mfg. Co.	Pistons, Piston Machine Iron, Aluminum and Steel Strut Pistons	15
Liberty Eng. Corp.	Piston Rings, Timer Rings, Spark Plugs	79	Thermoid Rubber Co.	Brake Lining, Disks, Rings, Radiator Hose	243-244
F. A. Luthy Co.	Piston Rings, Valve Seat Renewing Tools	255	Thompson Products, Inc.	Valves, Spring and Tie Rod Bolts and Bushings	40-42 inc.
Mall Tool Co.	Portable Flexible Shaft Elec. Tools	89	Timing Gears Corp.	Timing Gears and Chains	176
Mallory Elec. Corp.	Ignition Coils, Condensers, Testing Eqt.	221-224 inc.	Toledo Steel Products Co.	Valves	254
Manley Mfg. Co.	Automotive Shop Equipment	93-98 inc.	Torrington Co.	Ball Bearings	77-78
Marquette Mfg. Co.	Equipment, Tools and Accessories	260	Trindl Corp.	Piston Pins, Valves, Bolts, Bushings, Piston Rings, Boring Machine	265-267 inc.
Millersburg Reamer & Tool Co.	Reamers and Tools	260	Twentieth Century Brass Works	Bronze Bushings and Bronze Parts	8
Leslie Morris Co.	Connecting Rod and Main Bearings	256	U. S. Asbestos Co.	Brake Lining, Clutch Facings, etc.	4
Motometer Co., Inc.	Spark Plugs	250-251	U. S. Axle Co.	Axle Shafts and Flanges	186
M. C. R. Bearings Service Co.	Ball Bearings	188	U. S. Electrical Tool Co.	Elec. Drills, Grinders, Polishers, etc.	156-159 inc.
Multibestos Co.	Brake Lining, Clutch Lining and Plates, Brake Machines, etc.	61-62	Van Dorn Electric Tool Co.	Elec. Drills and Grinders	67-72 inc.
McCord Radiator & Mfg. Co.	Gaskets, Radiators	137, 138	Van Norman Machine Tool Co.	Elec. Valve Refacers, Piston Grinders	234-237 inc.
McGill Metal Co.	Ball Bearings	63	Vellumoid Co.	Ring Gears and Pinions, Diff. Cases	80-81
McQuay-Norris Mfg. Co.	Piston Rings, Pistons, Pins, Bearings, Bolts, Bushings, Equip.	197-201 inc.	Victor Mfg. & Gas-ket Co.	Gaskets	271-272
National Cork Products	Cork Products	14	Warner Gear Co.	Rings, Gears, Pinions, Differential Cases, Transmission Gears, Clutch Disks and Parts	147
National Machine & Tool Co.	Mechanics Tools and Serv. Equip.	184	Watervliet Tool Co.	Reamers	257
National Motor Bearing Co.	National Shims, Star Washers	174	Wel-Ever Piston Ring Co.	Piston Rings, Valve Inserts, Valve Tools, Piston Tools	233
New England Auto Prod. Corp.	Universal Joints and Parts	166	Western Gear Co.	Ring and Pinion Diff. and Trans. Gears	16
Norma-Hoffman Co.	Precision Ball, Roller and Thrust Bearings	196	Whitaker Battery Supply Co.	Battery Cables and Terminals	134-135
Ohio Piston Co.	Pistons	26	Whitney Mfg. Co.	Silent Timing and Generator Chains	262
Orange Roller Bearing Co.	Bearings	27	Wilkening Mfg. Co.	Piston Rings	231-232
Perfection Gear Co.	Timing Gears, Chains, Diff. Gears, Tappet Silencers	43	J. H. Williams & Co.	Drop Forged Wrenches and Tools	90-92
Piston Ring Co.	Piston Rings	179-181 inc.	Willis-Jones Machinery Co.	Valve Tools	148
Powell Muffler Co.	Mufflers, Heaters, Pressure Gauges	19-20	World Bestos Corp.	Brake and Clutch Lining	1-2
W. E. Pratt Mfg. Co.	Tape, Roller Bearings and Equipment	111	Automobile Digest	Trade Publication Exhibitors	75
Protex Chain Co., Inc.	Skid Chains and Equipment	213	Automotive Wholesale	Trade Publication	248-277 inc.
Packard Electric Co.	Automotive Electric Cables	263-264	Business Publishers International Corp.	Trade Publication	228
Pye Mfg. Co.	Valve Reseating Tools	22	Chilton Class Journal Co.	Trade Publications	23-24
Pyrene Mfg. Co.	Tire Chains and Fire Equipment	151	Jobber Topics	Trade Publication	233
Red Line Reamer Co.	Reamers and Small Tools	124	MOTOR WORLD WHOLESALE	Trade Publication	23-24
Republic Gear Co.	Ring & Pinion Gears	189	Motor Record	Trade Publication	167
Richmond Hammered Ring Co.	Hammered Piston Rings	155	Motor Service	Trade Publication	150
Ross Gear & Tool Co.	Steering Gears	241	Pacific Radiator	Trade Publication	106
Rottler Boring Bar Co., Inc.	Shop Equipment	252-253	Southern Automotive Dealer	Trade Publication	3
Wm. & Harvey Rowland, Inc.	Automobile Leaf Springs	133	Heinn Co.	Catalog Binders	112
Reiff-Nestor Co.	Taps and Reamers	74	Brooks Co.	Brooks Visualizers and Accounting Devices	170
Russell Mfg. Co.	Brake Lining, Clutch Facings, Fan Belts, Trans. Lining, Fiber Brake Shoes, Brake Lining Machines, etc.	82-83	Automotive Daily News	Trade Publication	162
Ramsey Accessories Mfg. Corp.	Ramco Cushion Inner Ring Piston	249			
Ramsey Chain Co., Inc.	Timing Chains, Mufflers	53-66 inc.			
Raybestos Co.	Brake Tester, Lathe, Equipment	28-32 inc.			
Ray-Day Pistons, Inc.	Pistons	149			
Security Mfg. Co.	Valves, Pins, Bolts and Bushings	5			
Service Spring Co.	Automobile Chassis Springs	73			

Selling Cars to Club Women

Novel ideas of merchandising are scarce, but there's an occasional dealer who finds a way that is unique. W. H. Farrington of the Auburn Chicago Co. has a consistently successful method that sells cars to club women.

In Next Week's MOTOR AGE

Pete Keenan



A MOTOR AGE IMPRESSION = C. A. GRAINGER
General Sales Manager - Allbestos Corp.

READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

Rear Axle Adjustment

Please tell me how to adjust the rear end of a 1927 Pontiac. The car that I have has quite a hum in it and I don't know whether the noise is due to having too little or too much back-lash.—Oscar Christenson, P. O. Box 191, Stanley, Wis.

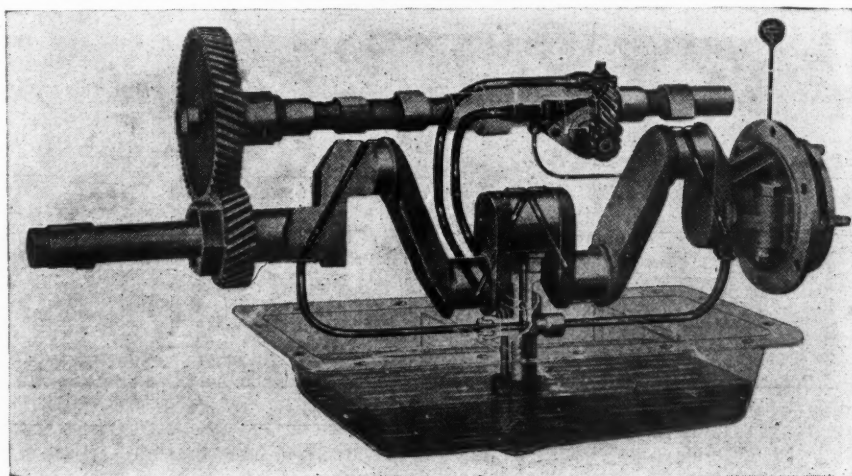
THE proper way to adjust the rear axle is to find the point where the pinion and ring gear have the least back-lash. Then at this point adjust your back-lash so that it is between .002 and .003 in. Incidentally the pinion should mesh with the ring gear so that there is good uniform contact at the center of the tooth with no indication that the teeth are meshing either too deep or too high.

What Squeals in a Ford Model A Clutch?

What would cause a funny squealing noise in a new Model A Ford clutch? The noise is heard the best when idling, and disappears when the clutch pedal is pressed in. Do you suppose there is a naturally tight fit somewhere in the clutch, or is there something wrong?—Wisconsin Reader.

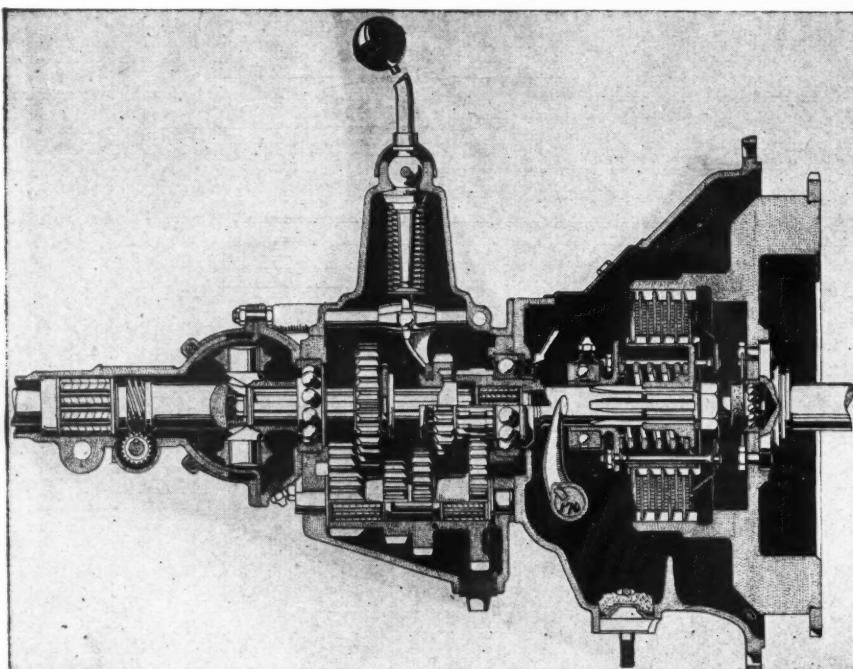
WE are showing an illustration of the clutch and transmission of this car. When this is running with the gears in neutral and no pressure on the clutch pedal, the entire clutch assembly is turning, and it seems im-

possible that there could be any squealing in this part. All bearings in this installation are of the anti-friction type. At the same time it would be worth your while to lubricate the little oiler at the top of the clutch throw-out bearing under the clutch plate. While this is all open it would be well to listen with the engine running, to see if you



Chrysler 58 oiling system

can come closer to the noise. It might also be worth your while to try squirting a little oil around the part marked.



Clutch and transmission of Ford Model A

Engine Oiling System of Chrysler 58

If possible, I would like to have you show me the complete engine oiling system that was used in the Model 58 Chrysler car.—E. H. C., Davenport, Iowa.

IN line with your request, we are glad to be able to show the oiling system in which you are interested.

Check the Driveshaft

What causes an unusual vibration about my Essex 1924 six-cylinder coach? It vibrates regularly while picking up to about 40 miles an hour and then if I slow the engine down slightly to where it will go back to 35 miles an hour in 300 yards, usually all of the vibration disappears. But if I decelerate more rapidly the vibration is very noticeable, causing a terrible shaking of the steering column. When the car is in this vibrating stage, releasing the clutch and slowing the engine down makes no difference whatever. This car has run about 20,000 miles. Usually when I speed up very quickly the vibration does not appear until it has reached about 30 miles an hour, and then it continues until I slow down as mentioned above. This car has had this habit during its last eight or ten thousand miles.—James A. Pierce, Jr., Lacompte, La.

YOUR remark that the disengaging of the engine has no effect on the vibration, makes it reasonable to ignore that unit in our diagnosis. We have every reason to believe that the driveshaft is sprung or that the universals have become badly worn. The result is that at low speed, or when the shaft is under considerable strain, as when picking up fast, the vibration does not bother you. But at high speed, the unbalanced condition makes itself very apparent, as you have explained in your letter.

Useful Shop Equipment

Brake Drum Grinder

THE Riess Universal Brake Drum Grinder is furnished in both automatic (Type A) and Hand-Feed (Type B) equipment.

This machine will grind passenger car, truck or bus drums with equal facility, either external or internal, whether high or low carbon content. It



is unnecessary to remove the drum from the wheel in any case. Practically all jobs can be done without removing the tire.

It is equipped with a high-speed one-horsepower grinding motor and a separate motor for rotating the wheel and drum. It is furnished with three steel arbors, nine cones, four bushings, one six-inch grinding stone, one four-inch grinding stone and other accessory equipment.

This machine can also be used for resurfacing clutch drivers and wheel hubs and for refacing clutch discs when equipped with special attachments at a slight extra charge.

The automatic (Type A) grinder is equipped with automatic reversible cross feed as well as hand-screw feed, applicable to both grinding and tool turning operations.

The Riess Tool Turning Attachment, for both automatic and hand-feed, can be attached to the machine in one minute and used for removing excess stock from ridges and shoulders of badly

scored or eccentric drums, preparatory to grinding. It can be attached to both the automatic (Type A) and the hand-feed (Type B) machines and is equipped with a reversible tool holder for both external and internal drums.

The Riess Metal Stand for mounting the drum grinder is constructed of heavy metal with wooden top and an extra shelf for tools, arbors, cones and accessories. It is painted to correspond to the standard steel blue and black colors of the Riess Drum Grinder and motors.

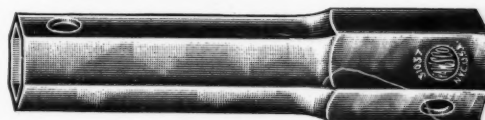
Type "A" Automatic Grinder, equipped with tool turning attachment and mounting stand, 60-cycle, alternating current motors lists at \$600; with direct current or odd cycle motors at \$625.

Type "B" Hand Feed Grinder equipped with tool turning attachment and metal mounting stand, 60-cycle, alternating current lists at \$430; with direct current or odd cycle motors at \$455. Further details may be had by addressing the Riess Mfg. Co., Kokomo, Ind.

Spark Plug Wrenches

THESE double-ended tools are made of heavy gage, deep-drawn seamless steel, hardened.

They are available in four popular combinations of sizes, requiring minimum clearances inside and out. They are 4½ in. long, supplied with copper-nickel plated Bessemer steel handle 5¼ in. long. They are packed in individual cartons. No. 29x29 fits Nash and Buick, No. 29x31 fits ¾ in. and



15/16 in. Hex., No. 29x33 fits ¾ in. and 1 in. Hex., No. 29x37 fits ¾ in. and 1½ in. Hex., No. 31x37 fits 15/16 in. and 1½ in. Hex. No. 29x29 copper-nickel-plated is 50c and the plain finish is 45c. All other models with copper-nickel finish are 40c and all plain finishes are 35c. They are made by J. H. Faw Company, 27 Warren St., New York City, and may be had from any automotive jobber in tools and accessories.

Wheel Pullers

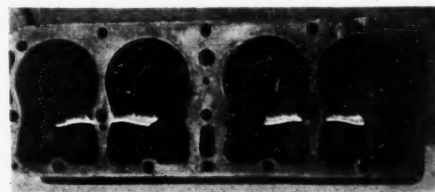
THE illustration shows the No. 8A individual wheel puller, size 1 by 1½ in., which is a product of The Metzger Welding Co., Cincinnati, Ohio. These pullers may be purchased in any quantity desired



and are made in sizes to fit the popular makes of cars. To use this puller screw it on the end of the axle shaft until the bottom of the puller fits tight against the end of the axle shaft. It should then be hit a light tap with a hammer and the puller screwed up tight again with a wrench before striking a severe blow to remove the wheel. This will prevent pulling the threads on the shaft or breaking the wheel puller. The two solid ends coming together protect the threads and take off the strain. Strike the end of puller a hard blow and the jar loosens the wheel. The wheel on the opposite side from the one being taken off should be jacked up to permit the axle to move back freely from the blow while the weight of the car remains on the wheel being removed. This jars the wheel loose. Care should be taken to see that the end of the axle shaft is entirely free from grease. The price varies from 60c upwards and a set of four pullers is offered for \$3.

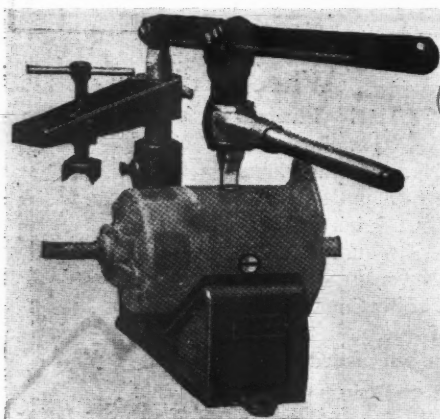
Cylinder Head

ABILITY to throttle down lower, to run at higher speed and with greater economy, are the results claimed for cars equipped with Walert cylinder head made by the Walert Automotive Products Co., 1495 Tenth St., Milwaukee, Wis. The feature of these heads consists of a baffle plate which deflects the incoming gasoline charge so that it strikes the head of the exhaust valve. The valve head is cooled and the fuel vaporized.



Weidenhoff Screw Driver

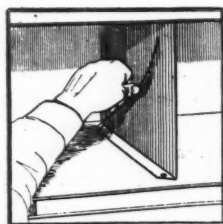
REMOVING and replacing of generator and starting motor pole piece screws is made easy with the new Weidenhoff ratchet screw driver. This



equipment consists of a "V" base that holds the machine, a lever and a ratchet operated screw driver. The equipment sells for \$24. An attachment for holding machines while they are being worked on may be had for \$4.10 extra. These items are made by Joseph Weidenhoff, Inc., 4352 W. Roosevelt Road, Chicago, Ill.

Lyon "Snap-In" Dividers

SNAP-IN" is a steel wire fastener made to secure the partitions in Lyon steel parts bins. By its use it is possible to change the size of bins much more quickly than with the bolted construction. "Snap-in" is interchangeable with the bolts in bins previously sold, and can be had at no extra charge in new bins when requested on order. Otherwise bolted construction will be furnished. "Snap-In" sells at \$4 a 100 and may be ordered directly from Lyon Metal Products, Inc., of Aurora, Ill.



Shop Lamps

AN electric lamp designed to withstand rough service such as that of a portable lamp used by mechanics has been developed by the National Lamp Works of the General Electric Co. This lamp is a 50-watt A-19 inside frosted MAZDA lamp selling at 37 cents.

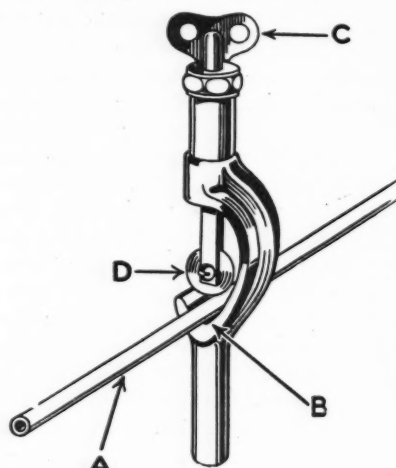
The new lamp will withstand an average of 15 to 25 drops of 3 ft., when enclosed in a regular wire service unit compared with one or two drops for the regular 50-watt MAZDA C lamp, ac-

cording to tests reported by the company.

The coil filament is wound on a much smaller mandrel than that of the regular 50-watt lamp. Because of the smaller coils the length of the filament is nearly three times that of the standard lamp. Instead of three supports found in MAZDA type C lamps the heavy duty lamp has 16 supports. The lamp is further strengthened by the addition of a center row of supports which are closed about the filament tightly enough to prevent slipping due to shocks or bumps received.

Copper Tube Cutter

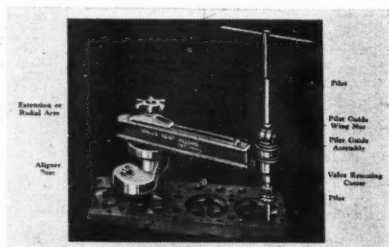
THE Imperial No. 94 tube cutter is especially made to make quick, clean cuts in gasoline and oil tubing. The cutting wheel is brought into con-



tact with the tubing by a screw feed and the tool is then rotated about the tube. This tool is made by the Imperial Brass Manufacturing Co., Chicago, Ill., and sells for \$2.50 except on the Pacific Coast where the price is \$2.75.

Valve Seat Tool

TO supply a bearing above and in line with the center of the valve guide the Van Norman valve seat aligner has been developed. This tool consists of a base that mounts on the engine block or head depending on whether the valve seats are in the block



or head and an arm carrying the valve pilot bearing. This bearing is self-aligning, and when once aligned can be

locked in place, thus providing a steady support for holding the valve reseater true while refacing the valve seat. This tool is a product of the Van Norman Machine Tool Co., Springfield, Mass.

Brake Lining Stretcher

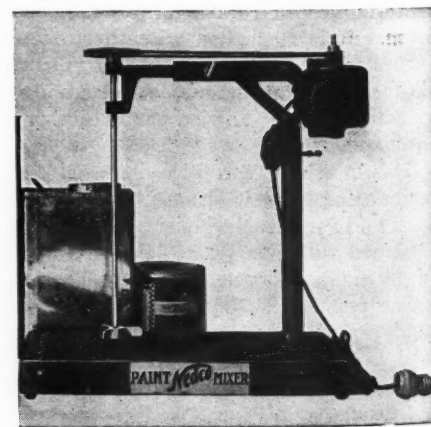
THE Mardo brake lining clamp is an efficient device that stretches and holds the lining tightly in place which allows the operator the use of both hands to drill and rivet. It is claimed that the Mardo clamp is practically a necessity on the new Bendix brakes, as the small space between brake lining and brake drum renders it essential that the lining be stretched tight against the



brake shoe. It also handles the new Ford and Chevrolet brake shoes. Every Mardo brake lining clamp is individually packed, with full instructions in each box. The list price is \$1.50 and it is made by Demco, Inc., manufacturers of Mardo products, 105-15 S. Calvert St., Baltimore, Md.

Paint Mixer

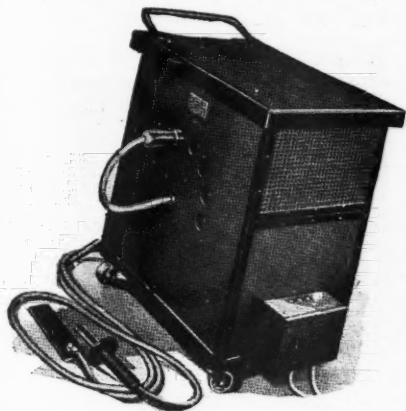
THE formerly laborious job of thoroughly mixing the color pigment in paint or lacquer is now easily handled by the Nedco mixer. The con-



struction is clearly seen in the illustration. It is made by the C. Warren Mfg. Co., Natick, Mass., and sells for \$19.50.

McAdams Arc Welder

THIS welding equipment is particularly suited for repairing cracked cylinder blocks and for use on similar jobs. It is said that the cost of opera-



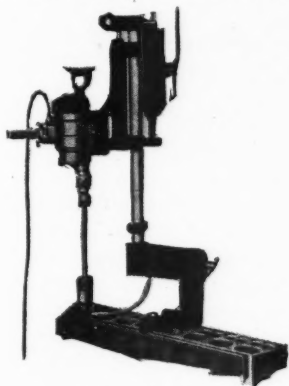
tion is about 15 cents an hour. The complete machine for use on 110-volt, 60-cycle current is \$300. Models for other current include special transformers and range in price up to \$535. These are made by the J. C. McAdams Co., New Britain, Conn.

Painting Supplies

FOR use when spraying automobiles the DeVilbiss Co. of Chicago is marketing both a liquid spray shield and a masking tape. The liquid spray shield is applied with a brush to those surfaces that are to be protected from the spray. It is said to be easily washed off with water. The masking tape is available in widths from 1 to 8 in. regularly and on special order, up to 17 in. The tape is of durable paper with a non-drying adhesive that is said to be harmless to any finish.

Hutto Power Attachment

AN air cylinder stroking attachment for operating the Hutto grinder stand has been developed by the Hutto Engineering Co., Inc., of Detroit, Mich.



This cylinder can be installed on the regular stand in place of the handle that was formerly used to raise and lower the electric drill and cylinder grinder. This power attachment is op-

erated from the shop air line. The price for power air cylinder attachment is \$31.50.

Special Lubricating Device

THE Triple-A Specialty Company, 312 S. Hamilton Ave., Chicago, are offering a device for lubricating valves, valve stems, upper piston rings and the upper moving parts of the motor that are not lubricated under the present oiling system.

The OILRITE eliminates sticky valves, carbon, wear on the cylinder walls, and adds to combustion and power by keeping the combustion chamber free from carbon. The OILRITE lubricator attached underneath the hood causes a regulated amount of OILRITE lubricant to be drawn, drop by drop, into the intake manifold. The oil, in the form of a spray, is then distributed around the valves and rings, sealing them for maximum combustion—eliminating sticky valves and carbon and sealing the combustion chambers with a film of non-combustible oils, adding greatly to the explosive power.

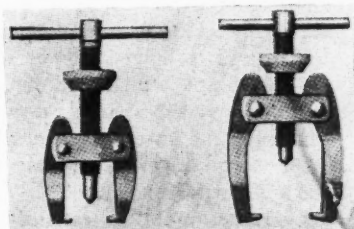
It is claimed that the OILRITE will increase miles per gallon of gasoline, reduce motor noises and enable the motor oil to idle at lowest possible speed.

The OILRITE has a special sight feed attached to the instrument board, permitting the motorist to see how the oil enters into the combustion chamber of the motor. This sight feed, being removable, may either be attached on the instrument board or on the top of the oiler under the hood.

The OILRITE comes complete, ready to install with proper fittings and one quart of OILRITE non-explosive lubricant.

Terminal and Gear Pullers

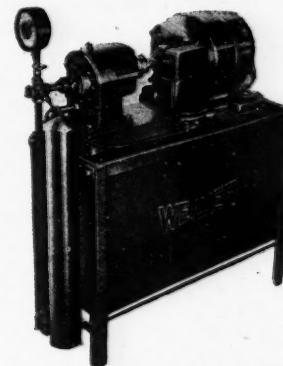
TWO all-steel gear and terminal pullers have been added to the line of equipment made by Joseph Weidenhoff, 4352 W. Roosevelt Road, Chicago.



The smaller one has a jaw opening 2½ in. wide by 1½ in. high and sells for \$2. The larger one opens to 3 in. by 2½ in. high and sells for \$3.

Power Hoist Unit

A POWER hoisting unit, suitable for operating from 1 to 3 of the Weaver power car hoists has been developed by the Weaver Manufacturing Co. of Springfield, Ill. This power unit



consists of a high pressure oil pump operated by a 1 hp. motor. Piping to the rack or racks completes the installation. The control for regulating each lift is located at the lift. This unit will raise one lift to its maximum height in 1 minute.

Paint Sprayer

THE Electric Sprayit Company of South Bend, Ind., is introducing a new rotary compressor type Electric Sprayit to round out their line of self-contained, portable electric spraying devices.

The Superior Model Electric Sprayit was designed for the application of paints, enamels, varnishes, lacquers and shellac where a fine finish is necessary, such as one coat of enamel on fixtures and chandeliers, or where it is customary to rub down between coats as in automobile and fine cabinet work.

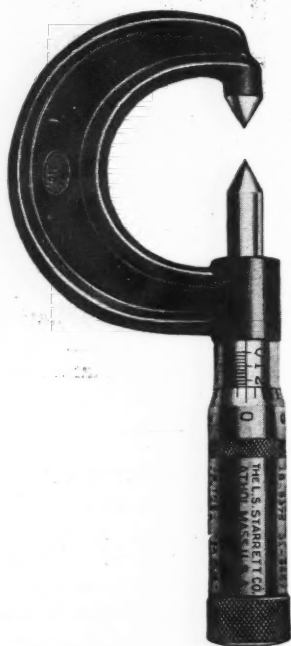
Pressure for break-up of materials to be applied is obtained by the self-contained, direct connected rotary com-



pressor, the rotor of which is mounted on the armature shaft of the motor. This three-bladed rotor is self-lubricated. The pressure developed in the Superior Model Electric Sprayit is stepped up in the specially designed fluid tip and nozzle to a point sufficient to handle practically any type of material.

Micrometer Screw Thread Comparator

THE Starrett No. 210 Screw Thread Comparator recently announced by The L. S. Starrett Company, Athol, Mass., is a tool of broad utility. It is particularly useful when cutting screw threads and can be brought into play many times on work having small grooves or recesses where the ordinary micrometer cannot be employed. The anvil and spindle contacts are conical



but are flattened about 1/64 in. The micrometer will not measure the actual diameter of a V thread but is excellent for purposes of comparison.

The Starrett No. 210 Screw Thread Comparator comes in two standard sizes, 0 to 1 in. and 1 to 2 in. It is also furnished in metric measure. Larger sizes are furnished upon request. The L. S. Starrett Company will gladly furnish full information and prices.

Gage-Equipped Jacks

BLACKHAWK Jacks with gages are used to determine weights of loaded trucks; strength of concrete or vitrified pipes; testing concrete beams for bending or shear; sinking piles to predetermined loads; press work and many other uses where total weights of load or pressure per square inch is desired.

Jacks can be equipped with gages of any size or tonnage and with graduations to suit the needs for industrial, laboratory and experimental tests.



Gages are individually hand calibrated to conform to the Bureau of Standard Specifications for Hydraulic Gages which means that they must be correct within two per cent plus or minus of the reading indicated.

The illustration shows Model C11G (7 ton) equipped with 4½-in. gage, for use in testing loads of trucks by Highway Commissioners and Heavy Duty Tire Service Stations.

Write the Blackhawk Mfg. Co., Milwaukee, for prices and further data.

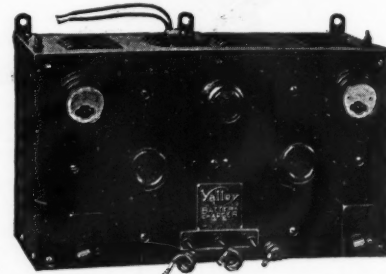
Battery Charger

THE Valley Electric Company, of St. Louis, is placing on the market a new double-duty, garage-type Battery Charger, that has a capacity of from one to thirty six-volt three cell batteries at a 6 amp. rate, or from one to fifteen batteries at 12 amp. rate. This Charger is being introduced to the trade as the new Valley G-30 Garage type Charger.

The G-30 Charger has two circuits; two ammeters; individual rheostat controls, and separate switches and automatic cutouts in each circuit. This enables the operator to charge batteries in one circuit at the overnight rate of 6 amp., while, at the same time, he can charge batteries at the rush charge rate of 12 amp.

The snap switch in the upper center of the Charger is in the primary circuit. The two toggle switches give two different ranges for charging batteries. With this switch in the left-hand position, one to seven batteries may be charged in this circuit, and with this switch in the right-hand position, this particular circuit has a range of from eight to fifteen batteries. The automatic cutouts at the lower corners of the Charger are an assurance against the inexperienced operator damaging the Charger or batteries, and are set to trip at about eight and one-half amp., which will not become irritating to the operator by tripping whenever the rate is just a slight bit higher than the 6 amp. rate, for which the Charger is intended. The two regulating handles control the charging rates in their respective circuits. An arrow indicates the manner of increasing and decreasing the charging rate. An ammeter in each circuit shows the charging rate at all

times. The leads projecting from the top back of the Charger are the line leads, and those at the bottom are the D. C. leads, and are to be connected to the battery. This Charger requires two bulbs in operating, and uses either the tungar 6 amp. tube No.

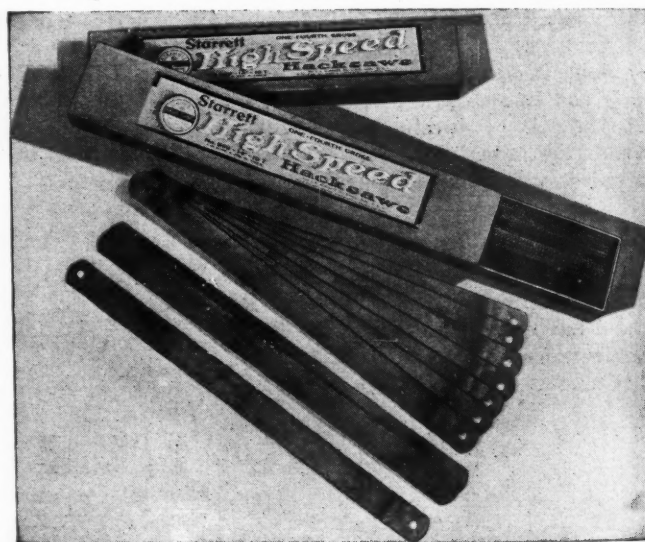


189049, or the Rectigon 6 amp. tube No. 289416.

The case, including the front panel, is of steel, with ventilating slots and wall hangers. Three wing nuts on top of the Charger hold the cover in place, and by removing these nuts, the inside of the Charger becomes readily accessible.

Hacksaws

THE L. S. Starrett Co., Athol, Mass., has added to their line of hacksaws the No. 840 High Speed blades for hand use and No. 850 for power sawing. These blades are made of special steel and have given a brilliant account of themselves from the standpoint of both

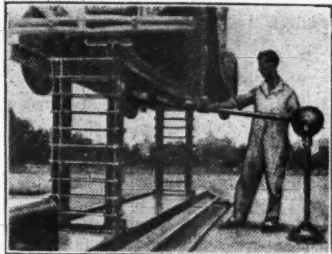


speeding up production and longer life. Although their initial cost is higher than that of the tungsten alloy blades they are able through superior performance to reduce the cost per cut as well as save time on many classes of work.

Starrett High Speed Hacksaws come in ten and twelve-inch lengths for hand service and twelve, fourteen and seventeen-inch lengths for power service. Information on performance and prices may be readily secured from the L. S. Starrett Company.

Holmes Oil Receiver

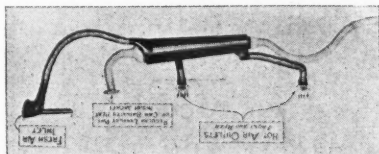
TO facilitate crankcase draining and prevent spilling the Ernest Holmes Co., Chattanooga, Tenn., has developed the Holmes oil receiver. This consists of a base that is secured to the floor, a vertical pipe that terminates at a split sphere, and an extension arm with large aluminum fun-



nel. The split sphere is held together with a powerful spring and permits the arm and funnel to be swung into position under the engine when the car is on a hoist. The receiver is piped to a storage tank or drum where all drainings are accumulated. The price of the complete receiver is \$48.

Model A Ford Heater

ATWO-REGISTER Arvin heater of liberal capacity and selling for \$7.50 has been designed for the Model A Ford by the Noblitt-Sparks Indus-

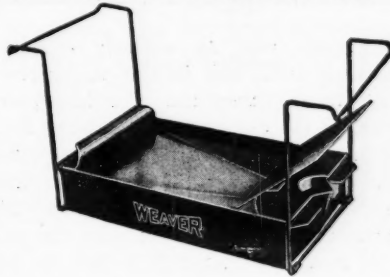


tries, Inc., Indianapolis, Ind. This heater is of sheet steel and entirely surrounds the Ford muffler. Fresh air is forced into the funnel at the front by the engine fan. A flexible tube conducts the air to the heater, and more flexible tubing connects the heater with the registers.

Oil Pan

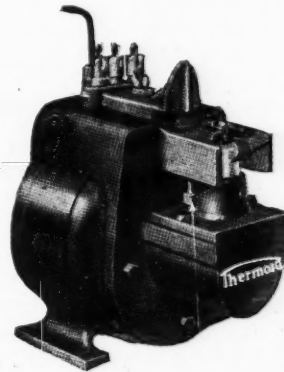
CONVENIENCE and speed in the shop are greatly facilitated by the use of the newly developed Weaver Universal Drain Pan. It is designed to fit practically any lift or rack and is clean and convenient. It has a special drain plate for lining it up with off-set plugs. Carrying and emptying the pan are simplified as the pan is equipped with rounded handles on each end and a drain spout that makes it possible to drain this pan directly into any old oil barrel. The top of the pan is sloped to drain the oil into the pan through an opening opposite the spout, so there is

no possibility of spilling when the pan is carried with this end up. This pan is ruggedly built of extra-heavy gage galvanized iron. The capacity is 2½ gal. It measures 4 by 12 by 21½ in., its shipping weight is 14 lb. This is one of the many products made by Weaver Mfg. Co. of Springfield, Ill.



Thermoid Brake Machine

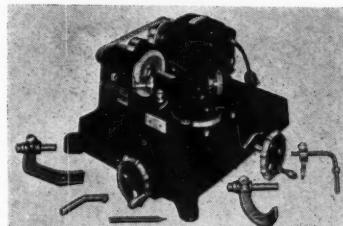
A COMPACT machine for drilling and countersinking brake lining on any type of bands or shoes has been



put on the market by the Thermoid Rubber Co., Trenton, N. J. A setscrew adjusts for depth of countersinking. The machine sells for \$50 with a 300-ft. order of Thermoid lining or \$75 without the lining.

Valve Refacer

THE Model F Van Norman valve refacer incorporates many worthwhile features. Among these are the



Van Norman split double grip collet with a capacity of 5/16 in. to ½ in., guaranteed to be accurate within .001 in., dowel pin setting for 30, 45 and 60-deg. work, three-point suspension to compensate for bench inequalities, and double ball bearing wheel head. This machine is made by the Van Norman Machine Tool Co., Springfield, Mass. The price is \$115.

Tilden Hydraulistat

FOR the speedy flushing and refilling of hydraulic brake systems the Tilden Hydraulistat has been developed by the Raybestos Co. of Bridgeport, Conn. This unit consists of a steel tank that will hold 5 gal. of brake fluid with sufficient space above for compressed air. With 10 by 24 tank and equipment for original hydraulic brakes the price is \$45. With A.S.M.E. tank the equipment sells for \$50. An adapter for fitting the newer compensating type master cylinders may be purchased for \$5.



Steering Wheel Puller

ONE of the new tools manufactured by the Kent-Moore Organization of Detroit and Kalamazoo, is the U-37, Universal Steering Wheel Puller. This puller is designed to handle the wheels of the new 1929 models as well as former models and is said to be so made as to fit all wheels.

As will be noted, a sleeve is provided to slip over the spark and hand throttle tubes which, on some models, protrude out of the steering column. In this manner a steering wheel may be



pulled without disturbing this assembly. Another feature of the puller is the floating pin which eliminates wear at point of puller screw and damage to threaded end of shaft. A number of collars are supplied with the puller to accommodate various sized steering columns.

U-37 is made of cold rolled steel, steel casting, and weighs 7 lb.

The Latest in Accessories

Battery Grid

THE black bars of the Vesta Plate locking grid are the isolators, which are notched where each plate sets into them. There are four isolators in each grid—one at each corner—holding each plate firmly in place. This minimizes the effect of vibration or the likelihood of plate buckling, which results in short-circuiting and battery ruin. The even spacing of the plates permits free



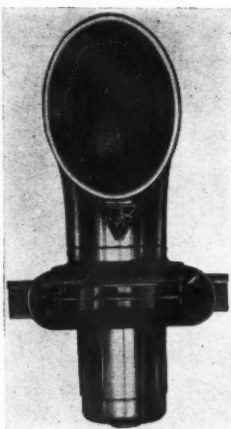
circulation of the solution, which keeps down undue heating, recognized as being very injurious to a battery. Mainly, the Vesta Isolators minimize plate-buckling which ordinarily causes short-circuiting. Over 75 per cent of battery breakdowns are caused by this trouble.

The maker of this product is the Vesta Battery Corp., 2100 Indiana Ave., Chicago, Ill.

Motor Vehicle Siren

MARKETED under the trade name "Luren," which has been used to identify other signal and alarm apparatus designed and developed by Christian A. Volf, Jr., 366 Madison Ave., New York City, a new-type siren is being made in three sizes, one for fire apparatus, one for motorcycle patrol use, and one for locomotive service. Each has a distinct difference in sounding characteristics for ready identification in traffic.

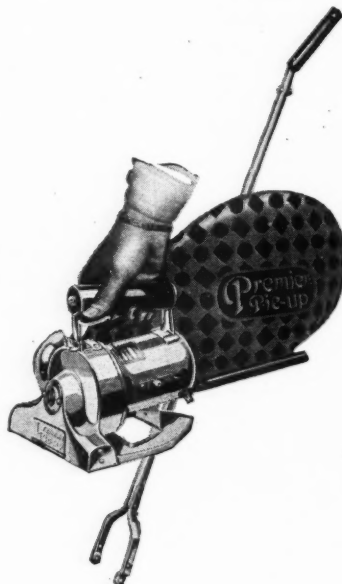
The siren is featured by two sepa-



rate horns and an entirely enclosed sounding box, the intake mouthpiece being three times the size in square inches of the exhaust mouthpiece. Thus the influx of air currents through the intake horn is far greater than into the exhaust, and the velocity of air currents passing out through the exhaust mouthpiece, which is part of the sounding box, is more than double the velocity of the speeding vehicle. Therefore the opponent air current has no effect at the exhaust and the sound is forced directly ahead, enabling accurate detection of the direction from which the vehicle is approaching.

Auto Vacuum Cleaner

THE Premier Pic-up, in all essential details, is a replica of the Premier Duplex Electric Cleaner. It uses the same principles that have made the Premier Duplex known for its cleaning powers, i. e., an efficient motor-driven bristle brush combined with suction. Because of its convenient size (it weighs only 4 lb.), the new Premier



Pic-up can be used in corners and pockets quite inaccessible to a larger machine.

Premier Pic-up can be used as shown, or with a 3-ft. detachable handle for cleaning rugs and moldings. For further details address the Electric Vacuum Cleaner Co., Inc., Cleveland, Ohio.

Noble Light

THE "Noble Light" is a truly unique parking or radiator lamp made in the design of the familiar Shrine emblem. It is of baked enamel finished glass in pleasing colors. The scimitar is of gold with a steel blue hilt. The crescent is red with keystone in light blue. Thus it makes an attractive ornament by day and at night the emblem is illuminated in such a way that



the design appears against a dark background, the field being opaque.

The "Noble Light" measures 5 inches from tip to tip and may be mounted on the radiator.

It lists at \$5.00. The "Noble Light" is a novel, good-looking and well-made item. Further details and prices may be had from the makers, Lessman Manufacturing Company, Des Moines, Iowa.

Lock for Model A Ford Spare Tire Wheel

THIS lock, known as the "Swenson," consists of an extra long steel strap which is of the proper length and shape to fit over the spare tire, including the rim, on the Model A Ford. Then by means of a lock, the tire and the wheel both are securely locked to the carrier. The steel strap is covered with black moleskin, and the steel strap itself is hardened and



heat-treated and made rust-proof by parkerizing. Each end of this strap is strengthened by a hexagon hole reinforced by a 3/16 in. collar. The locks themselves are in three grades, at different prices, with two accompanying keys. This accessory is made by the Oakes-Swenson Co., 1470 E. Nineteenth St., Indianapolis, Ind.

Prices, Weights and Equipment of Current Passenger Car Models

Important changes in Specifications and Price Tables since last issue:

**Chandler
Chrysler
De Soto
Hupmobile**

Important changes in Specifications and Price Tables since last issue:

Chandler Chrysler De Soto Hupmobile

Passengers and Model F.O.B. Price Doors Net Weight* Standard Equipment

AUBURN				
"76"				
2-4p. Roadster	\$1195	3	2980	aeghmnrw
5p. Touring	1195	4	3070	aeghmnrw
4p. Cabriolet	1395	2	3125	aeghmnrw
5p. Sp. Sedan	1295	4	3300	aeghmnrw
5p. Sedan	1395	4	3300	aeghmnrw
5p. Victoria	1395	4		
"88"				
2-4p. Roadster	1495	3	3265	aeghmnrw
2p. Speedster	1695	2	3245	aeghmnrw
5p. Touring	1495	4	3380	aeghmnrw
4p. Cabriolet	1695	2	3410	aeghmnrw
5p. Phaeton Sed.	1895	4	3600	aeghmnrw
5p. Sp. Sedan	1595	4	3590	aeghmnrw
5p. Sedan	1695	4	3590	aeghmnrw
5p. Victoria	1695	4		
"115"				
2-4p. Roadster	1995	3	3655	aeghmnrw
2p. Speedster	2195	2	3590	aeghmnrw
5p. Touring		4		aeghmnrw
7p. Touring		4		aeghmnrw
2-4p. Cabriolet	2195	2	3880	aeghmnrw
5p. Phaeton Sed.	2395	4	3990	aeghmnrw
5p. Sp. Sedan	2095	4	3995	aeghmnrw
5p. Sedan	2195	4	3995	aeghmnrw
7p. Sedan	2445	4		aeghmnrw
BUICK				
"116"				
5p. Phaeton	\$1225	4		ag
2p. Bus Coupe	1195	2		ag
5p. Sedan 2d.	1220	2		agt
5p. Sedan 4d.	1320	4		agt
"121"				
4p. Sp. Roadster	1325			aghm
3p. Bus Coupe	1395			aghm
4p. Spec. Coupe	1450			aghm
5p. C. C. Sedan	1450			aghmnt
5p. Sedan	1520	4		aghmnt
"123"				
5p. Phaeton	1525	4		aghm
7p. Touring	1550			aghm
5p. Coupe	1865			aghm
5p. C. C. Sedan	1875			aghmnt
4p. Conv't. Cpe.	1875			aghmnt
5p. Sedan 4d.	1935	4		aghmnt
7p. Sedan	2045	4		aghmnt
7p. Limousine	2145	4		aghmnt

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment
CADILLAC "341"				
"Fisher"				
2p. Roadster	\$3350	2	4690	aeghmprx
4p. Phaeton	3450	4	4725	aeghmprx
4p. Sp. Phaeton	3950	4	5110	Beghikmnp
"75"				
7p. Touring	3450	4	4760	aeghmprx
2-4p. Coupe	3295	2	4930	aeghmprx
2-4p. Conv't. Coup.	3595	2	4835	aeghmprx
5p. Coupe	3595	2	4910	aeghmprx
5p. Sedan	3695	4	5040	aeghmprx
5p. Town Sedan	3495	4	5030	aeghmprx
7p. Sedan	3795	4	5140	aeghmprx
7p. Imp. Sedan	3995	4	5180	aeghmprx
"Fleetwood"				
5p. Sedan	\$4195	4		aeghmprx
5p. Sedan Cab.	4195	4		aeghmprx
7p. Sedan	4295	4		aeghmprx
7p. Sedan Cab.	4195	4		aeghmprx
5p. Imperial	4345	4		aeghmprx
5p. Imperial Cab	4345	4		aeghmprx
7p. Imperial	4345	4		aeghmprx
5p. Club Cab't.	4395	4		aeghmprx
5p. Phaeton Sed.	5750	4		aeghmprx
5p. Im. Pha. Sed.	5995	4		aeghmprx
Town Cab Con.	5250	4		aeghmprx
Town Cab Con.	5500	4		aeghmprx
Lim Bro'm Con.	5500	4		aeghmprx
CHANDLER				
"65"				
5p. Touring	\$ 895	4	2530	ahmn
5p. Sportster	995	4	2685	ahmn
3p. Coupe	875	2	2630	ahmn
5p. Sedan	895	4	2785	ahmn
2-4p. Coupe	955	2	2690	ahmn
5p. DeL. Sedan	995	4	2785	ahmn
2-4p. Cabriolet	1075	2	2660	ahmn
"Royal 75"				
5p. Sedan, 2d.	1295	2	3175	
2-4p. Coupe	1295	2	3125	
5p. Sedan, 4d.	1395	4	3320	
5p. DeL. Sedan	1495	4	3320	
"Big Six"				
7p. Touring	1725	4	3360	ahjlmnw
5p. Met. Sedan	1525	4	3800	ahjlmnw
4p. Coupe	1725	2	3535	ahmn
3p. Ctry. Club	1725	2	3535	ahmn
2-4p. Cabriolet	1825	2	3450	ahmn
7p. Sedan	1925	4	3895	ahmn
7p. Berline Sed.	2025	4	3945	ahmn
"Royal 85"				
7p. Touring	1995	4	3645	ahjlmnw
4p. Coupe	1925	2	3640	ahmn
4p. Ctry. Club	1925	2	3640	ahmn
5p. Sedan	1795	4	3900	ahmn
7p. Sedan	2195	4	3950	ahmn
3-5p. Cabriolet	2095	2	3600	ahmn
5p. DeL. Sedan	1995	4	3900	ahmn
7p. Berline Sed.	2295	4		ahmn
CHEVROLET				
2p. Roadster	\$495	2	2030	dr
5p. Touring	495	4	2090	dr
5p. Coach	585	2	2260	thr
2p. Coupe	595	2	2235	thr
5p. Sedan	675	4	2435	thr
2-4p. Con. Sp. Cab.	695	2	2265	thr
5p. Imperial	715	4	2405	thr
CHRYSLER				
"65"				
2-4p. Roadster	\$1065	2	2730	aghn
5p. Touring	1075	4	2770	aghn
2p. Bus. Coupe	1040	2	2780	aghn
5p. Sedan, 2d.	1065	2	2905	aghn
5p. Sedan, 4d.	1145	4	2960	aghn
2-4p. Coupe	1145	2	2875	aghn
"75"				
2-4p. Roadster	1555	2	3190	aeghm
5p. Phaeton	1795	4	3110	
5p. Phaeton	1835	4		
7p. Phaeton	1865	4	3235	
2-4p. Coupe	1555	2	3235	aeghm
5p. Royal Sedan	1535	4	3410	aeghm
4-5p. Town Sedan	1655	3	3360	aeghm
5p. Crown Sed.	1655		3365	
2-4p. Con. Sp. Coupe	1795		3320	a
5p. Con. Sedan	2345		3430	a
"Imp. 80"				
2-4p. Roadster	\$2795	3	3870	aeghmprx
5p. Sedan	2945	4	4125	aeghmprx
7p. Sedan	3075	4	4250	aeghmprx
5p. Town Sedan	2995	4	4140	aeghmprx
7p. Sedan Lim.	3495	4	4285	aeghmprx

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment
CUNNINGHAM				
"V-7"				
4p. Sp. Touring	\$6500	4	4500	Ceghikmnp
"75"				
7p. Touring	7000	4	4600	Ceghikmnp
4p. Coupe	8000	2	4700	Ceghikmnp
6p. Limousine	8500	4	5000	Ceghikmnp
DAVIS				
"39"				
4p. Polo Rdster.	\$1795	2	3295	aeghmnr
5p. Touring	1795	4	3325	aeghmnr
4p. Coupe	1865	2	3345	aeghmnr
5p. Emp. Sedan	1885	4	3475	aeghmnr
DE SOTO				
5p. Touring	\$845	4	2455	aghn
2-4p. Roadster	845		2365	aghnw
2p. Bus. Coupe	845	2	2465	aghn
2-4 DeL. Coupe	885		2520	aghn
5p. Sedan	845	4	2580	aghn
5p. Sedan	885	4	2640	aghn
5p. DeL. Sedan	955	4	2660	aghn
DIANA "St. 8"				
5p. Phaeton	\$1695	4	3100	agmn
5p. Roy. Rdster.	1795	2	2995	agmnw
5p. P.B. Rdster.	1895	2	2995	Bgmnw
5p. Cab. Rdster.	1995	2	3160	aghm
5p. Collap. Rdstr.	2195	2	3160	aghmnr
5p. 2d. Sedan	1795	2	3170	aghmno
5p. 4d. Sedan	2095	4	3275	aghmnot
DODGE BROS.				
"Std. 6"				
2-4p. Conv't Cab.	\$945	2	2570	Bghr
5p. Sedan	875	2	2490	aghr
5p. Sedan	895	4	2710	aghr
5p. Sedan DeL.	970	4	2800	aghr
5p. Sp. Sed. DeL.	1045	4		Beghjr
"Victory 6"				
5p. Touring	995	4	2775	aghmnr
5p. Sp. Touring	1245	4		Beghikmr
4p. Sp. Roadster	1245	2		Beghikmr
2p. Coupe	1045	2	2650	aghmnr
4p. Coupe DeL.	1170	2	2850	Beghjanrt
5p. Sedan	1095	4	2855	aghmnr
4p. Brougham	1095	2	2750	aghmnr
4p. DeL. Bro'm	1170	2	2850	Beghjanrt
5p. DeL. Sedan	1170	4	2955	aghmnr
5p. Sp. Sedan	1295	4	3150	Beghjanrt
"Senior"				
5p. Vic. Bro'm	1575	2		agmp
5p. Sedan	1675	4		agmp
2-4p. Coupe	1675			agmp
5p. Sport Sed.	1795	4		Bgikmnp
2-4p. Sp. Coupe	1795	2		Bgikmnp
5p. Landau Sed.	1845			Bgikmnp
du PONT "E"				
4p. Roadster	\$2800		3700	afghkmpnx
5p. Touring	2800	4	3850	afghkmpnx
4p. Coupe	3200		3850	afghkmpnx
4p. Conv't Coupe	3400	2	3800	afghkmpnx
5p. Sedan	3400	4	4100	afghkmpnx
5p. Con. Sedan	3750	4	4100	Bghikmnpnx
"141" W.B.				
... Phaeton	\$4360			Beghikprx
... Sp. Phaeton	4560			Beghikprx
7p. Touring	4560			Beghikprx
... Conv. Coupe	4360			Beghikprx
... Club Sedan	4360			Beghikprx
5p. Sedan	4410			Beghikprx
5p. Victoria	4410			Beghikprx
5p. Limousine	4675			Beghikprx
7p. Sedan	4675			Beghikprx
7p. Limousine	4875			Beghikprx
... Conv. Sedan	5150			Beghikprx
... Town Cab.	5750			Beghikprx
DURANT				
"Four"				
... Roadster	\$595		1950	ah
... DeL. Rdstr.	675			ah
... Coupe	595		2185	ah
5p. Sedan	595		2230	ah
5p. Sedan	695		2480	ah
... DeL. Sedan	775	4		

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment
"60"				
... Roadster	\$755			
... DeL. Rdster.	845			
... Coupe	755	2		
5p. Sedan	765	2		
5p. Sedan	845	4		
... DeL. Cab.	895			
... Sedan	935	4		
"65"				
5p. Touring	795	4	2385	aghm
2-4p. Sp. Rdster	1025	2	2365	Beghkm
2-4p. Collap. Cab.	1045	2	2525	aghm
2-4p. Coupe	975	2	2425	aghm
5p. Sedan	975	2	2600	aghm
5p. Brougham	1075	4	2675	aghm
... "75"	1175	4	2695	Beghvan
5p. Sedan	1385	4	3130	aghm
5p. Brougham	1550	4	3180	Beghkm
ELCAR				
"6-70"				
4p. Roadster	\$1295	2	2580	ahnr
5-7p. Touring	1295			ahnr
5p. Brougham	1295	2	2670	ahnr
5p. Sedan	1295	4	2750	ahnr
"8-78" Std.				
2-4p. Roadster	1395	2		ahnr
5p. Touring	1395	2		ahnr
2-4p. Coupe	1			

KEY TO SYMBOLS

- | | | | | |
|--|--------------------------------|---------------------------|---------------------------|--------------------------|
| *-Italic figures denote shipping weight. | e-Type of wheels optional. | l-Trunk and trunk rack. | o-Car heater. | v-Vanity set. |
| A-Wood wheels with spare. | D-Disk wheels with spare. | l-Trunk rack, no trunk. | p-Cigar lighter. | w-Windshield wings. |
| a-Wood wheels. | d-Disk wheels. | k-Spare tire. | r-Rear traffic signal. | x-Clock. |
| B-Wire wheels with spare. | e-Front and rear bumpers. | l-Spare tire lock. | s-Spotlight. | y-Overall length. |
| b-Wire wheels. | f-Front bumper. | se-Engine heat indicator. | t-Vanity and smoking set. | z-Prices on application. |
| C-Optional wheels with spare. | g-Shock absorbers or snubbers. | o-Dash gasoline gage. | o-Smoking set. | |
| | h-Automatic windshield wiper. | | | |

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment
FRANKLIN "Series 12 B" 119" W.B.					HUPMOBILE "A-6"					LINCOLN "g"					MARMON "68"				
3p. Coupe	\$262		3451	aeghklmrx	5p. Phaeton	\$1425	2900	aghn	2p. Spt. Rdster.	\$4600	24700	aeghklmrx	2-4p. Roadster	\$1565	22700	ahmnrw			
4-5p. Vic. Bro'm	\$2760		3550	aeghklmrx	2-4p. Sportster	1435	22820	aghn	2-4p. Club Rdster.	4600	47400	aeghklmrx	5p. Sedan	1465	42897	ahmnr			
5p. Sedan	2790		3580	aeghklmrx	7p. Phaeton	1455	42955	aghn	7p. Spt. Touring	4600	49400	aeghklmrx	4p. Vic. Coupe	1520	22867	ahmnr			
5p. Ox. Sedan	2790		3580	aeghklmrx	5p. Sedan 2d.	1345	22975	aghn	4p. Spt. Phaeton	4600	49100	aeghklmrx	2-4p. Coupe	1465	22827	ahmnr			
5p. Spt. Sedan	2910		3630	aeghklmrx	4p. Coupe	1385	22965	aghn	4p. Coupe	4600	4805	aeghklmrx							
3-5p. Conv't Cpe.	2850		3510	aeghklmrx	5p. Sedan	1395	43040	aghn	4p. Sedan	4800	4930	aeghklmrx	2-4p. Roadster	1965	23007	ahlmnrwx			
128" W.B.					2-4p. Cabriolet	1475	2965	aghn	5p. Sedan	4800	5010	aeghklmrx	2-4p. Coupe	1965	23077	ahlmnrwx			
2-4p. Sp. Runab't.	2975		3440	aeghklmrx	5p. Phaeton	1905	3285	aghn	2p. Coupe	5000	4720	aeghklmrx	4p. Vic. Coupe	2065	23068	ahlmnrwx			
5p. Sp. Touring	2975		3630	aeghklmrx	2-4p. Sportster	1915	3335	aghn	7p. Sedan	5000	5050	aeghklmrx	5p. Sedan	1965	43104	ahlmnrwx			
7p. Touring	3060		3630	aeghklmrx	7p. Phaeton	1935	3355	aghn	7p. Limousine	5200	5165	aeghklmrx							
7p. Sedan	2980		3790	aeghklmrx	5p. Sedan, 2d.	1825	23385	aghn	4p. Berline	5500	5070	aeghklmrx	2p. Speedster	3485	24251	aeghklmrx			
4p. Ox. Sedan	2980		3790	aeghklmrx	4p. Coupe	1865	3375	aghn	7p. Limousine	6000	5380	aeghklmrx	4p. Speedster	3485	24256	aeghklmrx			
7p. Limousine	3080		3870	aeghklmrx	5p. Sedan, 4d.	1875	43455	aghn	7p. Brougham	6500	5025	aeghklmrx	5p. Phaeton	3485	44017	aeghklmrx			
					2-4p. Cabriolet	1955	3345	aghn	6p. Ber. Landau	6500	5030	aeghklmrx	7p. Tour. Speed	3565	44480	aeghklmrx			
									7p. Cabriolet	6600	4935	aeghklmrx	2p. Coupe Rdster	3565	24374	aeghklmrx			
									7p. Le Baron Cab	7000	5165	aeghklmrx	5p. Town Coupe	3195	24452	aeghklmrx			
									7p. Holbrook Cab	7200	5205	aeghklmrx	2p. Coupe	3435	24373	aeghklmrx			
									7p. Collap. Cab	7300	5140	aeghklmrx	4p. Victoria	3485	24346	aeghklmrx			
													5p. Brougham	3565	44525	aeghklmrx			
													5p. Sedan	3565	44498	aeghklmrx			
													7p. Sedan	3640	44620	aeghklmrx			
													5p. Cus. Sedan	3960	44515	aeghklmrx			
													7p. Cus. Sedan	4075	44678	aeghklmrx			
													7p. Cus. Limou.	4175	44718	aeghklmrx			
															</				

KEY TO SYMBOLS

- 2—Italic figures denote shipping weight.
 A—Wood wheels with spare.
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 B—Wire wheels with spare.
 b—Wire wheels.
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 c—Type of wheels optional.
 D—Disk wheels with spare.
 d—Disk wheels.
 e—Front and rear bumpers.
 f—Front bumper.
 g—Shock absorbers or snubbers.
 h—Automatic windshield wiper.
 i—Trunk and trunk rack.
 j—Trunk rack, no trunk.
 k—Spare tire.
 l—Spare tire lock.
 m—Engine heat indicator.
 n—Dash gasoline gage.
 o—Car heater.
 p—Cigar lighter.
 r—Rear traffic signal.
 s—Spotlight.
 t—Vanity and smoking set.
 u—Smoking set.
 v—Vanity set.
 w—Windshield wings.
 x—Clock.
 z—Overall length.
 §—Prices on application.

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight	Standard Equipment
OLDSMOBILE "F-28"					PIERCE-ARROW "81"					ROLLS ROYCE "Si. Ghost"					STUTZ "BB" "Custom"				
2-4p. Sp. Rdstr..	\$995	2	2610	aeghmnpr	2p. Runabout..	\$2600	2	3350	afghlmnr	Open Models..				Bighjkmpr	2p. Speedster..	\$3495	2	4478	aefghlmnr
5p. Sp. Touring..	995	4	2640	aeghlmnr	4p. Touring..	2700	4	3365	afghlmnr	Closed Models..				Bighjkmpr	4p. Speedster..	3595	4	4509	aefghlmnr
2p. Coupe.....	925	2	2660	aeghmnpr	7p. Touring..	2850	4	3500	afghlmnr	"New Phan"				Beghjmpr	4p. Speedster..	3845	4	4600	aefghlmnr
5p. Sedan, 2d..	925	2	2795	aeghmnpr	5p. Club Bro'm..	2475	2	3540	afghlmnr	Open Models..				Beghjmpr	2p. Black Hawk..	4895	2	4302	afghlmnr
2-4p. Spt. Coupe..	995	2	2675	aeghmnpr	2p. Coupe metal..	2650	2	3460	afghlmnr	Closed Models..				Beghjmpr	4p. Black Hawk..	4945	2	4302	afghlmnr
5p. Sedan, 4d..	1025	4	2870	aeghmnpr	5p. Brougham..	3250	2	3540	afghlmnr						2p. Coupe.....	3495	2	4649	aefghlmnr
5p. Landau Sed..	1085	4	2860	aeghmnpr	2p. Coupe leath..	2650	2	3490	afghlmnr						4p. Vic. Coupe..	3495	2	4679	aefghlmnr
"DeLuxe Series"					5p. Club Sedan..	2750	4	3635	afghlmnr						5p. Coupe.....	3545	2	4769	aefghlmnr
5p. Phaeton.....	1145	4	3000	Beghjmpr	2-4p. Coupe met..	2750	2	3530	afghlmnr						5p. Sedan.....	3570	4	4977	aefghlmnr
Roadster.....	1145	2	2770	Beghjmpr	5p. Sedan.....	2750	4	3605	afghlmnr						5p. Brougham..	3570	4	4820	aefghlmnr
Spec. Coupe.....	995	2	2760	aeghjmpr	2-4p. Coupe lea..	2750	2	3560	afghlmnr						2p. Cab. Coupe..	3695	2	4520	aefghlmnr
Sport Coupe.....	1145	2	2840	Beghjmpr	2p. Con't Cpe..	2850	2	3455	afghlmnr						7p. Speedster..	3895	4	4748	aefghlmnr
Sedan.....	1175	4	3005	Beghjmpr	5p. Club Land..	2850	4	3640	afghlmnr						5p. Country Club..				aefghlmnr
DeL. Landau..	1235	4	3005	Beghjmpr	7p. Sedan.....	2850	4	3700	afghlmnr						7p. Sedan.....	3895	4	5618	aefghlmnr
					4p. Coupe.....	2950	2	3490	afghlmnr						7p. Sedan Lim..	3995	4	5159	aefghlmnr
					2-4p. Conv't Cpe..	2950	2	3525	afghlmnr						5p. Collap. Sed..	3995		5020	
					7p. Enc. Dr. Lim..	2950	4	3755	afghlmnr						5p. Collap. Lim..	4095		5030	
					7p. Sedan Land..	3000	4	3700	afghlmnr						7p. Collap. Lim..	4195			
					7p. Enc. Dr. Land..	3700	4	3755	afghlmnr						"Wayman-Cus."				
					5p. Opera Bro'm..	7000									131" W.B.				
					"36"										2p. Black Hawk..	4895	2	4302	afghlmnr
					2p. Runabout..	5875	2	4560	afghlmnr						5p. Sedan.....	4120	4	4393	aefghlmnr
					4p. Touring..	5875	4	4510	afghlmnr						4p. Sedan.....	4120	2		aefghlmnr
					7p. Touring..	5875	4	4595	afghlmnr						4p. Coupe.....	4120			aefghlmnr
					7p. Sedan.....	5875	4	4815	afghlmnr						5p. Landau Sed..	4420	4		aefghlmnr
															145" W.B.				
					3p. Lim. Encl..	5875	4	4370	afghlmnr						5p. Sedan.....	4495	4		aefghlmnr
					3p. Coupe.....	6375	2	4760	afghlmnr						5p. Sedan.....	4545	4		aefghlmnr
					4p. Cpe. Sedan..	6375	2	4795	afghlmnr						7p. Sedan.....	4745	4		aefghlmnr
					4p. Sedan.....	6375	4	4830	afghlmnr						7p. Limousine..	4995	4	4778	aefghlmnr
					7p. Enc. Dr. Lan..	6000	4	4895	afghlmnr						7p. Landau Lim..	5295	4		aefghlmnr
					7p. Sedan Land..	6000	4	4840	afghlmnr						"Salon Cus."				
					4p. Lim. Encl..	6375	2	4840	afghlmnr						5p. PW Sedan..	6345	4		aefghlmnr
					4p. C. C. Sedan..	6475	4	4805	afghlmnr						7p. PW Sedan..	6345	4	5014	aefghlmnr
					2p. Coupe.....	6800	2	4745	afghlmnr						7p. Con. T'n Car	6895	4	5044	aefghlmnr
					4p. Sedan Land..	6800	4	4795	afghlmnr										
					4p. Enc. Dr. Land..	6800	4	4880	afghlmnr										
					7p. Fr. Limous..	7500	4	4740	afghlmnr										
					7p. Fr. Landau..	9000	4	4885	afghlmnr										

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- l—Spare tire lock.
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- n—Dash gasoline gage.

e—Car heater.
p—Cigar lighter.
r—Rear traffic signal.
s—Spotlight.
t—Vanity and smoking set.
u—Smoking set.

v—Vanity set.
w—Windshield wings.
x—Clock.
†—Overall length.
\$—Price on application.

Mechanical Specifications of Current Passenger-Car Models

This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

MAKE AND MODEL	Wheel Base (Inches)	Tire Size	Make and Model	Bore and Stroke	Rated H.P.	Plat. Dis.	Valve Arrangement	Maximum Brake Horsepower at Specified Speed	Compression Ratio	ENGINE				ELECTRICAL SYSTEM				Gear Set—Make	Universal—Type and Make	REAR AXLE		BRAKES		Steering Gear—Make	Rear Spring—Type and Location	ABBREVIATIONS—NAMES OF MEMS OF STOCK PARTS				
										Number of Cyls.	Oil Cleaner?	Oiling System	Radiator Shutter	Carburetor	Air Cleaner?	Ignition System	Generator and Starter Make			Location	Foot—Type and Location	4-Wheel Type								
Auburn...	76	28x5.25	Lyc.	6-2 1/2x4 1/4	19.8	185	L	60-3400 5.05	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	War.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	A-Bes—American-Bosch
Auburn...	88	30x6.00	Lyc.	6-2 1/2x4 1/4	26.4	247	L	89-3200 5.15	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	War.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	A-K—Alwater Kent
Auburn...	115	30x6.20	Lyc.	6-3 1/2x4 1/4	33.8	299	L	74-3300 4.3	He.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	A-L—Auto-Life
Buick...	116	30x6.50	Own.	6-3 1/2x4 1/4	31.5	310	L	91-2800 4.3	He.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Ada—Adams
Buick...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Al—Alameda
Cadillac...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chandler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chandler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chandler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chandler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chandler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chrysler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chrysler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Chrysler...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Cummins...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
Dodge...	121 & 128	32x6.50	Own.	6-3 1/2x4 1/4	35.1	341	L	96-3000 5.0	Ch.	Ch.	Al.	4	4	PG	N	N	Sch.	N	N	D-R.	D-R.	Det.	m-U.P.	Col.	4.9	E-T.	H.	Ross.	Bl.	Alm—Alameda
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Dodge																														



Revolutionary new features that mean infinitely greater safety, comfort and handling ease

The New LASALLE

WITH the wealth of remarkable new engineering and manufacturing refinements incorporated in the new LaSalles—as well as in the new Cadillacs and Fleetwoods—it is more

obvious than ever that no other manufacturer can produce as fine a car as can Cadillac without exacting a prohibitive price premium. Consider these new and exclusive features:

1 . . New Cadillac-La Salle Syncro-Mesh Silent-Shift Transmission. Enables one to shift gears easily, instantly, at any speed, without the slightest bit of clashing.

2 . . New Cadillac-La Salle Duplex-Mechanical System of Four-Wheel Brakes. Powerful, but effortless. Respond to the lightest touch and stop the car with amazingly little pedal pressure.

3 . . La Salle's steering gear is so designed that it takes the strain out of steering, resulting in the same nimble handling either in city traffic or on the open road—with complete freedom from steering vibration and steering shock.

4 . . All windows and doors, as well as windshield, equipped with Security-Plate Glass, removing the remote hazard of flying glass.

5 . . Front seat quickly adjustable so that the brake and clutch pedals are within easy, comfortable reach of any driver.

6 . . The famous Cadillac-La Salle ninety-degree, V-type, Eight-cylinder engine is enlarged, refined, improved, and made quieter, smoother and more powerful.

7 . . Luxurious Fisher bodies designed and built in accordance with the principles of Pneumatic Control in engineering, assuring maximum quietness.

8 . . All exterior nickel parts Chromium Plated—the new treatment that preserves indefinitely the original sheen.

9 . . The smart, distinctive Cadillac-La Salle body design, that has created today's vogue in motor car styles, made still more appealing by a richer, newer beauty and style in outward appearance, and by more exquisite and harmonious upholstery, appointments and fittings.

10 . . Longer, wider and more luxuriously roomy closed car bodies—134-inch wheelbase. Eleven exquisite new Fisher body styles, two de luxe custom-built Fleetwoods.

These new features are of such a character as to afford the salesman an excellent opportunity for explanation and demonstration—point by point—of the perfectly obvious fact that no other manufacturer can build a car—at any price—surpassing a Cadillac-built car.

Women, especially, are displaying extraordinary enthusiasm over the new Cadillacs

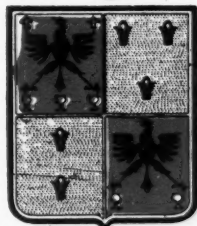
and La Salles for the simple reason that their revolutionary new and exclusive features effect infinitely greater safety, comfort and handling ease and reduce every phase of driving operation to a minimum of effort.

In short, the selling advantages offered by the new Cadillacs and La Salles are of inestimable value to every Cadillac-La Salle dealer.

CADILLAC MOTOR CAR COMPANY, DETROIT, MICHIGAN, OSHAWA, CANADA



DeSoto

*Multum pro parvo*

THE most important single factor contributing to worthwhile net profits is a car that is eagerly bought and enthusiastically praised by owners. The new DeSoto Six is proving to be that kind of car. ¶ ¶ As a result De Soto dealers are consistently reporting net earnings beyond expectations. ¶ ¶ Sales and profit records being set up by De Soto Six dealers everywhere are definitely proving that the De Soto Six franchise unquestionably affords an outstanding opportunity for dealers who can qualify. ¶ ¶ Requests for information regarding open territories will be held in strict confidence.

DE SOTO MOTOR CORPORATION

(Division of Chrysler Corporation) Detroit, Michigan

DE SOTO SIX
PRODUCT of CHRYSLER



A "used car" is *unused* transportation

A GOOD automobile is built to stand years of use. It will provide many thousands of miles of satisfactory transportation.

But only occasionally are all its years and all its mileage used up by one owner. It is the custom to turn a car in after an average use of only two to three years—long before its life has been exhausted.

This custom brings into the market every year so-called "used" cars which represent unusual opportunities to buy unused transportation at low cost.

Every year more and more people appreciate this fact. Today millions of families are driving cars of which they are the second or third or even fourth owners; and this year the volume of new car sales and trade-in transactions has created wider choices and greater values in unused transportation than ever before.

GENERAL

CHEVROLET • PONTIAC • OLDSMOBILE • OAKLAND • BUICK • LaSALLE • CADILLAC • *All with Body by Fisher* • GENERAL MOTORS TRUCKS

TUNE IN—General Motors Family Radio Party. Every Monday evening. 9:30

"A car for every

◆

3 out of 5 buy "used" cars

THREE out of five of the cars you see on the road have been purchased as "used" cars. You cannot tell—nor do you ask yourself—whether the driver of any particular car is its first owner, or its second or its third, provided the car looks well and is running satisfactorily. The term "used car" is relative.

The cars which General Motors dealers have accepted in trade vary in name, body style and price. Some have seen sturdy service; in others the potential mileage has scarcely been touched. And all offer a wide field of opportunities—

To the family wanting transportation at lowest possible cost.
To the family wishing to own a car of a higher price class.
To the family needing a second or third car to meet the requirements of all its members.

We invite you to examine the unused transportation in the stores of General Motors dealers. For your convenience General Motors extends the GMAC Purchase Plan.

MOTORS

price and purpose"

YELLOW CABS and COACHES

FRIGIDAIRE—The Automatic Refrigerator

DELCO-LIGHT Electric Plants

GMAC Plan of Credit Purchase

Eastern Standard Time. WEA and 31 other stations associated with N. B. C.

Announcing

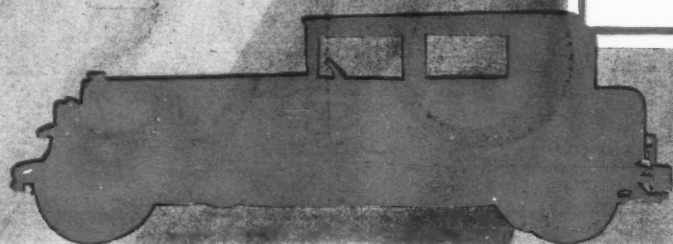
A brand new car with a new name that will be ready for new dealers everywhere at the time of the New York show—and which will retail for approximately \$2500.


The first time

Included in the ten distinctive body types for the new car are three Weymann flexible bodies at approximately the price of standard closed bodies—the first time in the history of the industry that such value has been offered. Weymann bodies are the height of fashion on European cars. Light weight—beautiful—comfortable.

Four speeds ahead

No car worthy of being called a high grade car can be marketed in the future without a transmission with four forward speeds. The four speed transmission used in this highly advanced car is novel in design and unusually quiet on both third and fourth speeds. The action of the gearshift is smooth as velvet, permitting the shifting of gears smoothly at any speed.





Exceptional steering

Newly designed, the steering mechanism of the new car sets a high standard of efficiency. Driving through a pile of fresh gravel or sand without deviating one bit from the course is an accomplishment of the new car. Responsive—sure—and safe. A great advancement in steering.

Advancements

Besides the four forward speeds and exceptional steering, the new car will have a novel engine of proved design, and superlative power, real non-glare headlights, an automatic back-stop and roadability that will set new standards. A worm drive, underslung weight—the safest car on any roadway. It's a record-maker.

Time-tested policies

The makers of this new car do not believe it is good business to "force" cars—or to curtail dealers' territories below a generous profit-making point—or in harassing interference—or in keeping dealers mystified and at arm's length—or in unnecessary dealer investments—or in selling cars without good profits.

New dealers

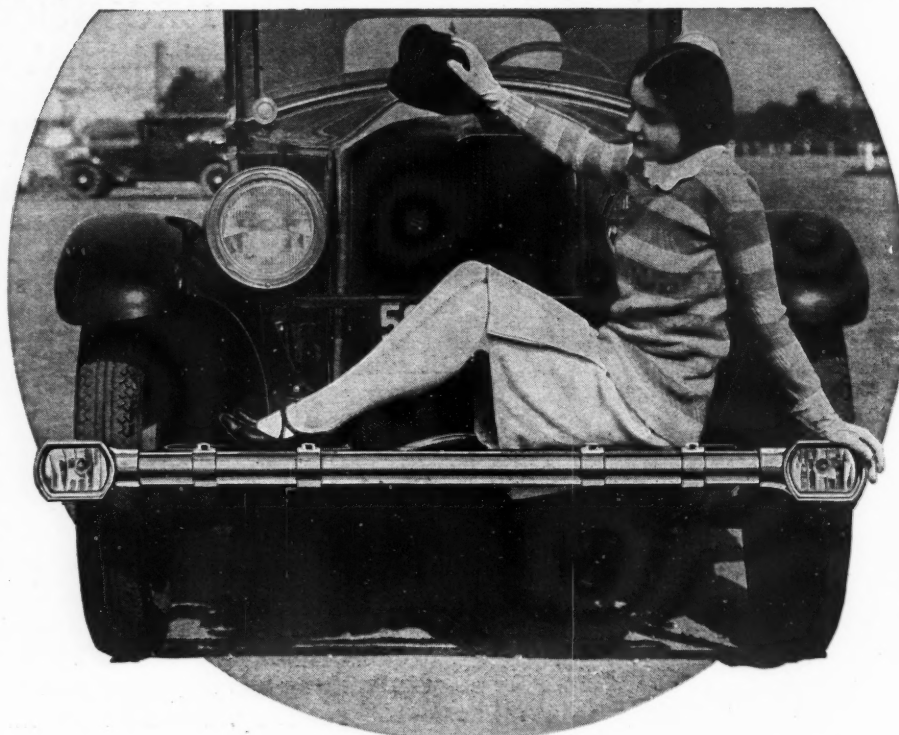
Obviously the name of this new car can't be divulged at this time. That it will be a record-maker in the new season is equally obvious. Dealers, and those desiring to become dealers, should write confidentially to "Manufacturer New Car," care

MOTOR AGE

56th and Chestnut Streets, Philadelphia

BEAUTY AS WELL AS LIGHT

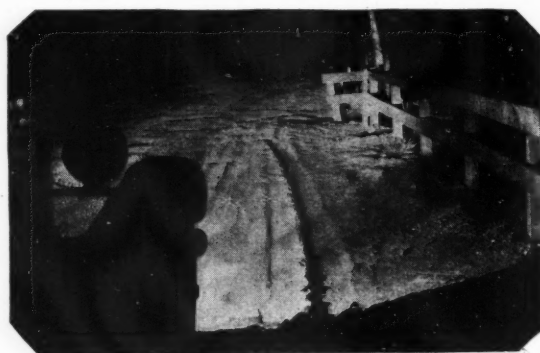
HANDSOME is as handsome does. And, the Bright Bumper does a handsome job of road lighting—illuminating the whole highway from ditch to ditch and for more than 360 feet ahead. But the Bright Bumper looks as handsome as it performs. It adds class and snap to the appearance of any car. It's a beautiful bumper, as well as a pair of safety driving lights that paint a path of daylight on the darkest road.



Why You Should Sell It

Because of these exclusive Bright Bumper features. Because of the ever growing consumer demand for distinction. Because of the absolute necessity for better and safer road illumination. And because the Bright Bumper franchise is packed with profit possibilities for YOU, you should write or wire for details and discounts at once.

This unretouched photograph shows a dangerous dirt road perfectly illuminated by means of the Bright Bumper alone.



Note that both sides of the road are plainly visible, the curve clearly defined, the ruts, fence and pole all boldly outlined in a flood of safe, clear light.

THE WARREN TOOL & FORGE Co., 500 Griswold St., Warren, O.

Central Sales Division

The Zinke Company, 1325 Michigan Boulevard, Chicago, Ill.

Eastern Representative
Bright Bumper Sales Corp. of N. Y.
541 W. 34th St., New York, N. Y.

Western Representative
Bright Bumper Sales & Specialty Co.
1009 S. Hill St., Los Angeles, Cal.

New England Representative
Bright Bumper Sales Corp.
1029 Little Bldg., Boston, Mass.

Canadian Factory
Bright Auto Bumper, Ltd.
Bridgeburg, Ontario

BRIGHT BUMPER

LISTEN IN on this business conference!

Leaders in many fields of industry and trade will meet with the editors and publishers of The Associated Business Papers, Inc., November 15 and 16 at the Roosevelt Hotel, New York, to discuss trends in business and cooperative trade development.

If you cannot drop in for these sessions, as we cordially invite you to, you can—by tuning in your radio—hear Mr. William Butterworth, President of the Chamber

of Commerce of the U. S., speak on "Business Cooperation as a Public Asset." The National Broadcasting Company, recognizing the importance of the conference to business, will broadcast this key address over the stations named below.

The editors of this publication, which is a member of The Associated Business Papers, Inc., believe that you will want to be sure to hear at least Mr. Butterworth's contribution to this important conference.

Listen in November 16

9.30 P. M. Eastern Standard Time 7.30 P. M. Mountain Standard Time
8.30 P. M. Central Standard Time 6.30 P. M. Pacific Standard Time

WEAF New York	WLIT Philadelphia
WGN Chicago	KSD St. Louis
WGR Buffalo	WGY Schenectady
WCAE Pittsburgh	WOC Davenport
WRC Washington	WOW Omaha
WTAG Worcester	WJAR Providence
WCCO Minneapolis	

(Subject to change. See station programs in local newspapers November 16)

THE ASSOCIATED BUSINESS PAPERS, INC.

52 Vanderbilt Avenue, New York



The A.B.P. is a non-profit organization whose members have pledged themselves to a working code of practice in which the interests of the men of American industry, trade and professions are placed first—a code demanding unbiased editorial pages, classified and verified paid subscribers, and honest advertising of dependable products

NEW SERIES MARMON 8's



7 Specific Advantages *which we believe are offered by no other account*

1 Two new lines of modernly designed straight-eights. The public has already conclusively demonstrated that it likes them.

2 The opportunity to do a volume business on a reasonably conservative investment.

3 All of the sales advantages of the popular priced lines, but without the high pressure that usually goes with a volume account. A steady, sure money-maker.

4 You run your own business.

5 A franchise agreement with no car contract attached to it. Conservative stocks are Marmon policy.

6 A permanent connection with an "independent" that right now is registering *one of the highest percentages of gain of any factory in the business.*

7 Merchandising assistance which is actual and real. Outstanding advertising to the public and constructive assistance to retail salesmen through a highly organized sales promotion department.

APPROXIMATELY a year ago Marmon entered volume production with its new line of straight-eights—the "68" and "78"—and was among the first to put on the market a straight-eight to sell at the same or even less money than the ordinary six.

Judged from any angle—from registrations, from increase in distribution, from dealer profits and from growing public acceptance—these twelve months represent a period of most unusual prosperity and growth.

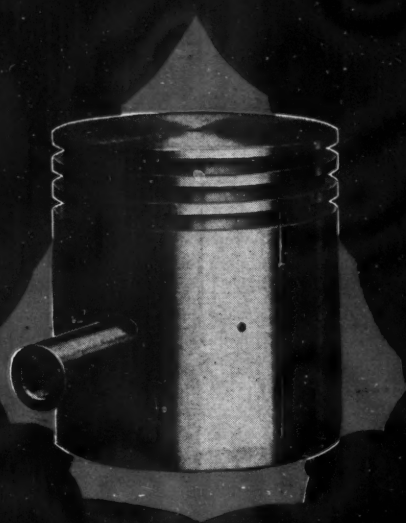
It is on the basis of this record that Marmon now asks alert and progressive automobile merchants to consider the Marmon franchise for 1929.

We will be glad to give any interested dealer the details of what others have done and are doing with the Marmon line. Address inquiries to

SALES DEPT., MARMON MOTOR CAR CO., INDIANAPOLIS



FARTHER than the Earth travels in its 500,000,000 mile annual sweep about the Sun, Arrow Head pistons have traveled in faithful performance of their all-important duty at the heart of the motor.



Save 20 machining, inspecting and fitting operations when you build a Motor—use Arrow Head Balanced Piston-and-Pin assemblies—just unwrap and slip into place.

Arrow Head's strong position as headquarters for pistons and pins—Arrow Head's volume and resulting ability to give more value for a dollar—Arrow Head's advanced practice in manufacturing to the most difficult specifications—Arrow Head's flexible facilities for equipment and service needs—Arrow Head's strong financial position; these advantages now enable motor makers to delegate to Arrow Head the full responsibility for pistons and pins, with an increase in assurance and a saving on some 27 cost items.

ARROW HEAD STEEL PRODUCTS COMPANY
 BUFFALO MINNEAPOLIS, MINNESOTA CHICAGO

Plymouth

A Profit Opportunity You Cannot Afford to Overlook

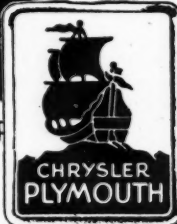
The new Plymouth is the only full-sized car in the lowest-priced field. It offers, in addition, style, quality and performance superior to all other cars in this market. Plymouth's dollar-for-dollar value leadership means to dealers an unusual opportunity for profit now and for a long, long future.

Registrations everywhere show the enormous progress the new Plymouth is making.

Plymouth production is backed by the enormous resources of one of the vastest groups of plants in the industry, working to capacity to meet a demand which shows not the slightest sign of decrease.

We may have just the opportunity you are seeking, to establish yourself on a strong, money-making basis as an automobile merchant. Your inquiry will be promptly handled.

\$675
AND UPWARD
f.o.b. Detroit



PLYMOUTH MOTOR CORPORATION, DETROIT, MICHIGAN
(Division of Chrysler Corporation)

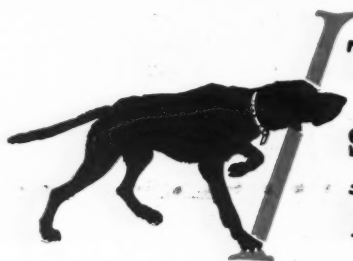
A STORY WITHOUT WORDS



ASK YOUR JOB-BERS SALESMAN

ASK YOUR JOB-BERS SALESMAN

ARVIN

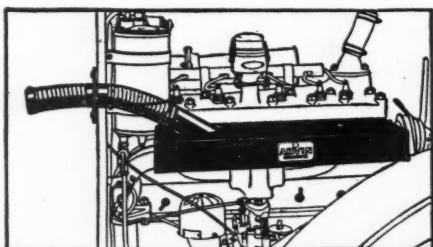


FIRST in sales
FIRST in performance
FIRST off the tongue of
the wise heater buyer

IT'S now open season for Heater sales. And ARVIN'S good old Prestige decoys flocks of cash customers into easy range of profitable sales.

There's an ARVIN HEATER for EVERY Car, \$1.75 to \$35

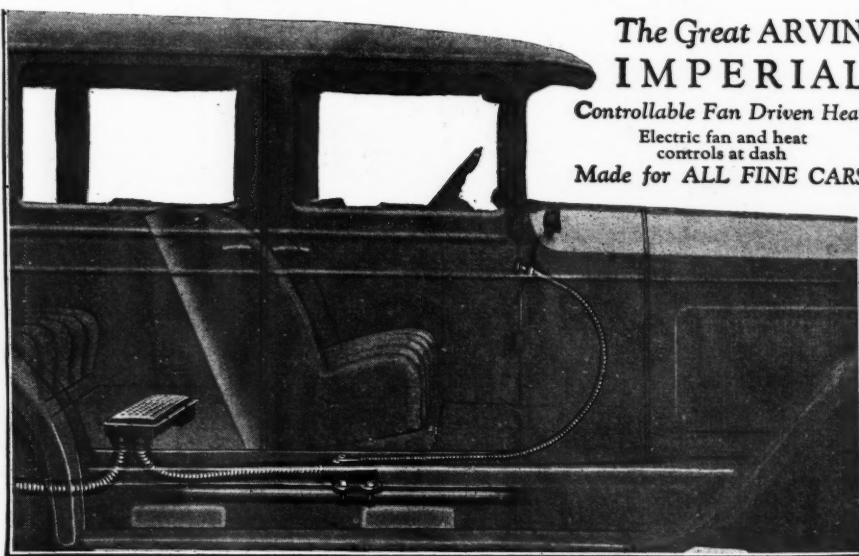
ARVIN'S New Manifold Jacket Type Flexible Register Heater



Typical Installation Shown on Chrysler Motor

Made for All Late Models of the Cars Listed Below

Auburn	Gardner	Oldsmobile
Buick	Graham-Paige	Peerless
Chrysler	Hudson	Pontiac
DeSoto	Hupmobile	Reo
Dodge	Jordan	Studebaker
Durant	Marmon	Whippet 6
Falcon	Nash	Willys-
Knight	Oakland	Knight

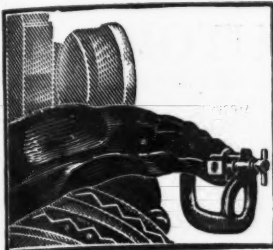


The Great ARVIN
IMPERIAL
Controllable Fan Driven Heat
Electric fan and heat
controls at dash
Made for ALL FINE CARS

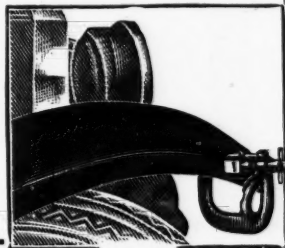
NOBLITT-SPARKS INDUSTRIES, Inc., INDIANAPOLIS

Formerly Indianapolis Pump and Tube Company

HEATERS



BEFORE



AFTER

Roll out the Dents—

Profits Roll in . . .

You can build yourself a nice fat source of income on the fender repair business that you are now missing—and with a surprisingly small investment. The Herman unit gives you a complete fender repair shop. Small Roller for rim and edge. Large Rollers for top of any type fender. Sold as one unit. Any ordinary mechanic can make dented fenders look like new with Herman Fender Rollers. Simply roll out the dents and the profits roll in.

Investigate today . . . start on the road to extra profits.

Stiles-Herman Manufacturing Co.

1710 RUSSELL BLVD.

ST. LOUIS

MISSOURI

Resize Pistons with a SHARP

The Only Tool of Its Kind

Brings you new customers and builds shop profits

Frequently a new car is driven too fast . . . This often causes overheating—the pistons pull in at the bottom and the engine becomes noisy . . . With a Sharp Piston Resizer you can fix this in a jiffy at a small cost to yourself. Garages, repair shops and service stations everywhere are making money with this wonderful tool.

ESSEX SIZE . . . \$ 8.00
CHEVROLET . . . \$ 9.75
NEW FORD . . . \$ 10.00

Postage prepaid to any point in the United States if check accompanies order. If sent C. O. D. postage will be added.

Sharp Automotive Specialties Corp.
1807 East 38th Street
Kansas City, Missouri



Satisfaction Guaranteed . . . Money refunded if not satisfactory after 30 DAYS FREE TRIAL Order today from your jobber.

There's always something new just at hand for the regular reader of
MOTOR AGE

Buy your next PROTEXALL ONE PIECE SUITS from your jobber

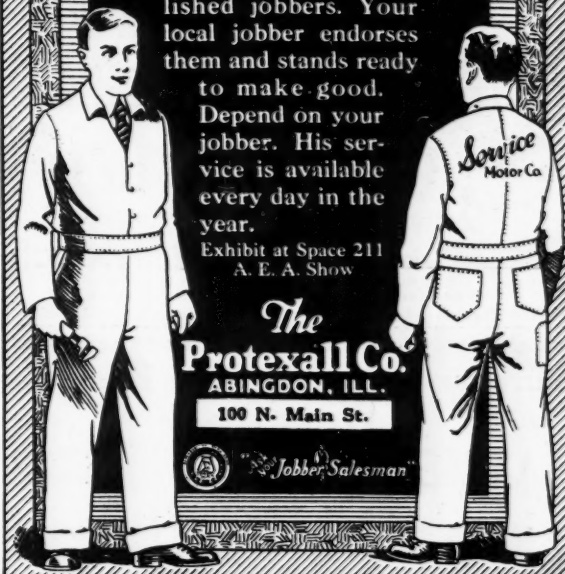
Protexalls are supplied you by reliable, established jobbers. Your local jobber endorses them and stands ready to make good. Depend on your jobber. His service is available every day in the year.

Exhibit at Space 211
A. E. A. Show

The
Protexall Co.
ABINGDON, ILL.
100 N. Main St.



"Jobber Salesman"



COMFORT sells women drivers

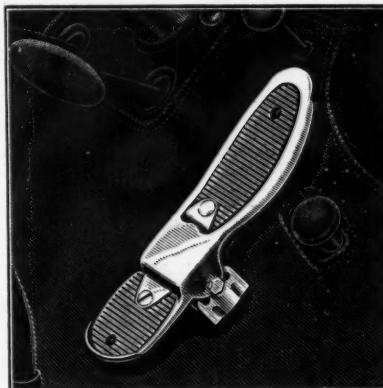
the
ADAMS
adjustable
FOOT REST

the most efficiently operating of all accelerator pedals . . .

No. 120

Special List

\$1.50 EA.



Easily Installed—Specially Recommended for latest models of

Buick	Chevrolet	Chrysler	Durant	Plymouth
Ford	Whippet	Oakland	Pontiac	Essex

. . . just suggest an ADAMS to replace that awkward cushion at back and a sale is made . . . With the DeLuxe Model, accelerator may be placed as much as six inches nearer driver; also adjustable to length of foot, pitch and angle.

Order today from your jobber, or write us direct.

ADAMS MANUFACTURING COMPANY
Galesburg, Illinois, U. S. A.

New ADAMS
adjustable **FOOT REST**

clean with

IT is easy to clean out clogged radiators. But the material and method to be used depends much upon the amount of water hardness in your locality. For a thorough job that will restore full circulation, have the Oakite Service Man call and make recommendations.


Oakite materials will do any cleaning job you have, thoroughly and at low cost. Write for booklet.

Manufactured only by
OAKITE PRODUCTS, Inc.
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OAKITE
Industrial Cleaning Materials and Methods

Weidenhoff
 SHOP EQUIPMENT for
BATTERY and ELECTRICAL SERVICE
 Test Benches • Rectifiers • Constant Potential Battery Chargers • Lathes
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**Increase Your Repair Business
 With The
 HAMMETT MOTOR TESTER**
 HAMMETT MFG. CO.
 13th & Oak Sts., Kansas City, Mo.

**Valve Seat
 Reamer Set No. 80**

 Handles practically 90% of all automobile motors. Includes 45° and 30° Roughing and Finishing Reamers, 15° and 75° Nicked Tooth Reamers, pilot stems in standard sizes and oversizes. Net price complete, \$32.50.
 Your Jobber Sells It **Albertson & Co.,**
 Sioux City, Ia.

When temperature is below 60° Fahrenheit every motor that runs needs the protection of
Pines Automatic Winterfront
 For complete selling information write your nearest distributor or direct to
PINES WINTERFRONT CO., 422 N. Sacramento Blvd., Chicago, Ill.


COWL SADDLE LIGHTS and BANDS

 In stock for all makes of cars
 Easy to install Good discount
The ARMSTRONG CO.
 6340 PENN AVE. E. E. PITTSBURGH, PA.

DISTRIBUTORS!!

 Tools—capable of standing up under any demonstration—sure of netting you a handsome profit—making you new friends as you sell them—This is what you get in the "Old Forge" line of wrenches, punches and chisels. Try them and convince yourself.


QUALITY TOOL CORPORATION
 NEW WILMINGTON PENNSYLVANIA


Neil's
 Rewound Armatures
NEIL ARMATURE CO. CANTON, O.

USE

GLASS ENCLOSURES
 to insure selling those open model trade-ins.
HAMPDEN AUTO TOP & METAL CO., SPRINGFIELD, MASS.

MONOGRAM
 Radiator Caps
GEAR SHIFT BALLS, ORNAMENTS
THE KINGSLEY-MILLER COMPANY • CHICAGO

CARBURETER
 1,000,000 a year going into service
CARTER CARBURETOR CORPORATION, ST. LOUIS


 A waving red light is the universal danger signal. Here is a positive warning stop light, with positive profits. Write today for complete information.

The ILER ELECTRICAL MFG. CO.
 Model A-AA for Passenger Cars
 5103 Lakeside Avenue, Cleveland, Ohio

CLASSIFIED ADVERTISEMENTS AND BUSINESS OPPORTUNITIES

PATENT ATTORNEYS
PATENT-SENSE—Valuable book (free) for inventors seeking largest deserved profits. Established 1869. Lacey & Lacey, 702 F St., Washington, D. C.

NEW MOTORS: General Electric ¼ H. P., \$9.50; ½ H. P., \$26.00; 1 H. P., \$38.50. Mail \$3.00—will ship C.O.D. anywhere.
MOTOR SPECIALTIES CO., Crafton, Pa.

To locate business opportunities
 To sell, rent, exchange or buy
 To find men or employment
**THE CLASSIFIED DEPARTMENT
 WILL HELP YOU**

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Be Ready— NOW!

FROSTY mornings, raw days and chill evenings—they're on the calendar *right NOW*. And every one of them means sales, sales—and more sales—if *you're ready*.

Just try saying "FRANCISCO Auto Heater" to the first car owner who comes into your place on a cold morning and you'll get what we mean.

Car owners are ready; we are ready; your jobber is ready. Take your place in the line and we'll ALL get satisfaction.

THE FRANCISCO AUTO HEATER

America's Standard



PRICE \$3.00 to \$10.00

FRANCISCO'S annual fall advertising campaign has been hammering away at the consumer for weeks. Good jobbers in every district are ready to take care of your instant needs. Be ready with your stock; be ready with your FRANCISCO Dealer Tie-ups; be ready with your FRANCISCO sales talk—and then watch the cash register show the results.

FRANCISCO—the heater that is built to fit every make and model of car; that is *guaranteed* to deliver heat in greater volume than any other; that saves gas, makes starting easier and gives the motor summer efficiency at the same time that it gives the passengers summer comfort—*leads the heater world*. Telephone your jobber today.

THE FRANCISCO AUTO HEATER CO.
Cleveland Ave. at Essex Columbus, Ohio

Francisco Canadian Auto Heater Co.,
Hamilton, Ontario, Canada


Dept. 14

Send full dealer information about FRANCISCO Auto Heaters.


Name

Address

.....



WITH COMFORT AND SAFETY



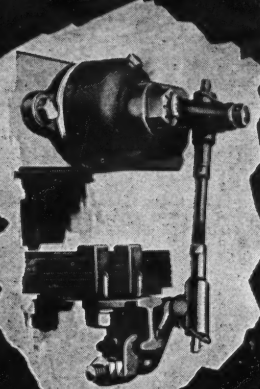
HOUDAILLE

Hydraulic Double-Acting

SHOCK ABSORBERS

Ask about them - We can equip your car

Standard Equipment on LINCOLN, PIERCE-ARROW, STEARNS-KNIGHT
BIRMINGHAM, MCEWAN and the new FORD



MR. AUTOMOTIVE DEALER—
Send for this Sign
and watch it make extra money for YOU

THE sensational speed and smooth riding of one of the world's most-talked-of cars has helped make Houdaille the world's most-talked-of shock absorber. Car owners are getting more and more critical about "The Ride." The nation-wide Houdaille Sales organization is enjoying greater sales than ever before.

If you aren't selling Houdailles you should be. The Houdaille sign will make extra money for you. There's more money in selling one set of Houdailles than dozens of small parts or accessories. Made of drop-forged steel and special molybdenum alloy, machined with watch-like precision, Houdailles are built to give service—not require it. Every time you sell a set of Houdailles you make a good friend as well as a good profit.

And remember this—you don't have to tie up your money in stock, you can get them as you want them from our nearest Distributor. Write or send the coupon for complete information and discounts. There is still a limited amount of territory open on a direct-with-the-factory basis.

HOUDAILLE

Hydraulic Double-Acting

SHOCK ABSORBERS

HOUDE ENGINEERING CORPORATION

537 E. Delavan Avenue, Buffalo, N. Y.

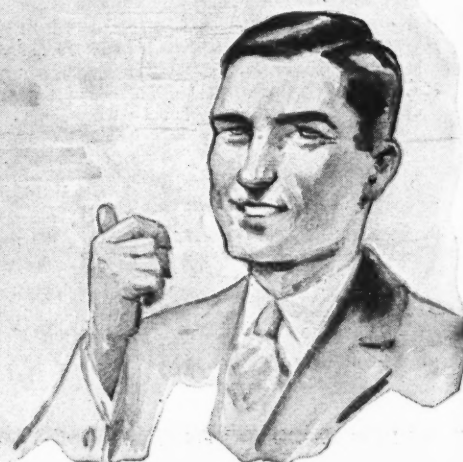
Dept. MA-11

Please send me the Houdaille Sign and complete information about the Houdaille Sales Plan.

Name _____

Street _____

Town _____





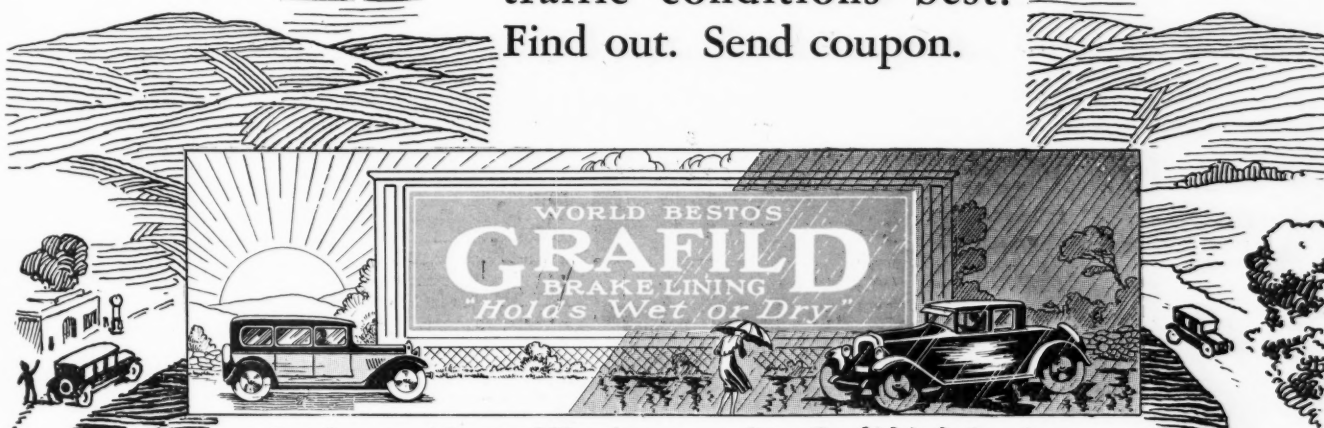
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It "Plain"!

Others are "falling" for it
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Buy Grafild!

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Find out. Send coupon.



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Name _____ Address _____

WORLD BESTOS CORPORATION
52 Courtland Street, Paterson, N. J.

25 Years of Public Good Will

The prosperity of Buick dealers rests on the solid foundation of public good will . . . good will such as no other fine car in automotive history has ever known.

Every Buick sold during the past quarter of a century has added to this public favor . . . added to this good will.

And today, the Silver Anniversary Buick with Masterpiece Bodies by Fisher is sweeping the country to new heights of enthusiasm by introducing standards of style, performance and value unapproached in the motor world.

The new Buick is establishing new all-time records for popularity and production . . . adding immeasurably to the value of the Buick dealer franchise.



BUICK MOTOR COMPANY, FLINT, MICHIGAN
Division of General Motors Corporation

Those who desire the Buick franchise should have their names on file.

SILVER ANNIVERSARY BUICK

WITH MASTERPIECE BODIES BY FISHER

